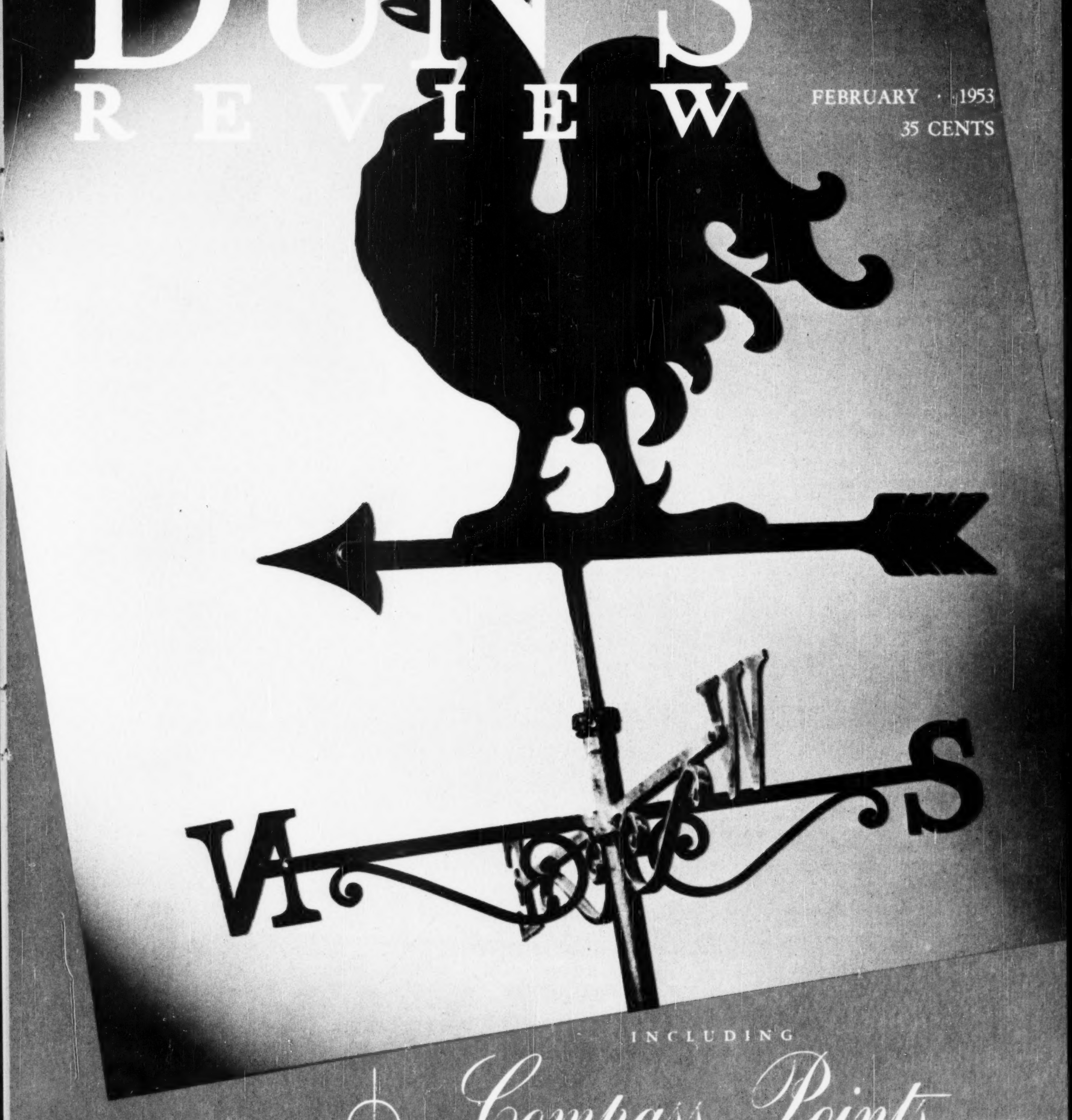
DUN'S REVIEW

FEBRUARY · 1953
35 CENTS



INCLUDING
Compass Points OF BUSINESS

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Contents

FEBRUARY 1953

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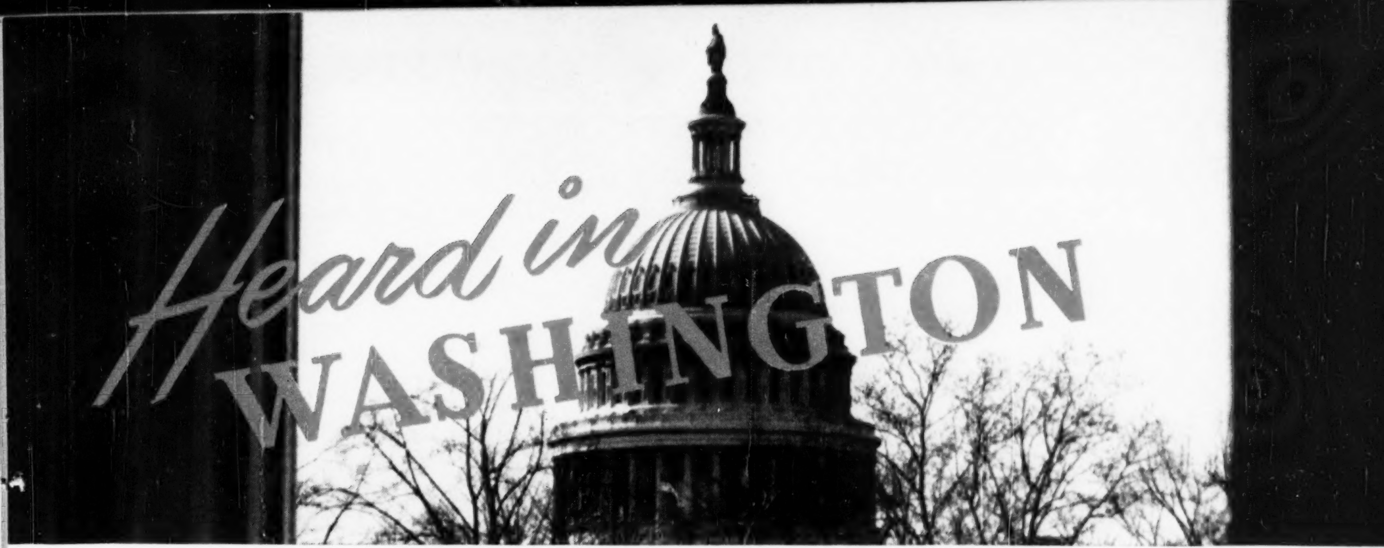


A honeymoon that will last longer than usual is predicted for the Eisenhower administration. Resentment and suppressed frictions, it is expected, will be held in check during this session of Congress. They will be trotted out, however, in time to provide issues for the biennial election next year.

* * * * *

In politics there are times when it is good strategy for the opposition to co-operate. Carping criticism would be unpopular when prospects favor a period of active business, good profits, and high employment. Absence of speculative excesses and unwise accumulation of inventories promise to contribute to relatively stable prices. Certainly no sharp inflation is expected. While continuation of the stalemate in international affairs is probable, there is ground for hope of gradual improvement with the chances against any serious deterioration.

Big business is out of the dog house, but with a sobered outlook and with a sincere desire to serve the country. It has a great opportunity to demonstrate its ability to contribute to the public interest.

While foreign policy is regarded by the new cabinet as the nation's No. 1 problem, it is recognized that as much statesmanship is going to be required in handling labor issues. What machinery can be devised to protect the public against strikes in essential industries? How can labor costs be kept from endangering price stability? No satisfactory answers to these questions have yet been brought forth in any democracy, but the country is looking to the new administration to do something about them.

* * * * *

Discussion of budget cuts has proceeded to the point where the difficulties surrounding reductions are more apparent. Some of the members of the appropriations committees are convinced that nothing other than a stable peace can reduce Government expenditures substantially.

Some further stretching out of the defense program seems probable, but there is no disposition on Capitol Hill, or at the other end of Pennsylvania Avenue, to let it sag. No capricious cutting back is being suggested, but pressure is being brought to get the most out of every dollar.

An indication that the current rate of activity is not based on the defense program is had in the fact that the volume of business has increased when Government spending was at a lower level than had been estimated. Civilian production more than made up the difference.

* * * * *

In the general reduction of appropriations the Commerce Department will not escape. Anticipating this action, officials are examining functions that could be performed by private industry. The plan is to make larger use of trade associations in preparing industrial and business data and to rely more on the business press for the dissemination of results.

* * * * *

A number of high Government posts now are held by men who were directors of Federal Reserve Banks. The accord between the Treasury and the Federal Reserve, therefore, will be on a firmer basis because men in both organizations understand the rôle of redundant money in feeding inflation.

Free business enterprise, with recognition of public responsibility, has been the slogan of the Committee for Economic Development. President Eisenhower has drawn heavily on that progressive organization in making appointments. Some believe that if we are going to succeed in by-passing socialism it will be under the leadership of such men.

Paul Wooton

WASHINGTON, D. C. JANUARY 1953

STEEL WOOL bursts into flame under a jet of fluorine gas in an experiment at The Whitemarsh Research Laboratory of The Pennsylvania Salt Manufacturing Company.

When Metal Bursts into Flame

Imagine, if you can, an element so fierce it burns up steel. One that claws its way through fire-brick . . . makes water burn like alcohol . . . destroys almost everything it touches.

That's fluorine for you!

And for over two hundred years chemists racked their brains to find some material that would hold fluorine. Hold it for even a few minutes' study.

Numerous materials — all considered dependably resistant to corrosion — were tried. Most went up in a flash.

Some few seemed to work, momentarily. But let temperature rise a trifle, or pressure build up . . . or a trace of moisture seep in . . . then dig out the wreckage and start over.

● Finally Nickel and its alloys were tried. They work. They last for months where other materials failed in days or weeks.

Today, you find Nickel and Inco Nickel Alloys in equipment that produces fluorine . . . in pumps and piping and valves where fluorine is compressed, stored, and processed. Nickel and Inco Nickel Alloys hold fluorine, even under heat and pressure. By the way, if you would like to know more about fluorine, ask us for a copy of "Fluorine Makes Its Debut."

When you have a metal problem

If it's corrosion, it can't be any tougher than that caused by fluorine . . . and the solution may be found in Inco Nickel or one of the Inco Nickel Alloys.

Inco corrosion engineers are ready to help you. They've prepared a Corrosion Data Work Sheet to make it easy for you to outline your problem to them. Write for it, without obligation, of course.

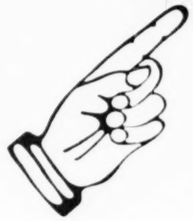
• • •

Or perhaps your metal problem concerns temperatures — high or low . . . stresses or fatigue resistance. Whatever it may be, Inco engineers will gladly help you find the answer. The International Nickel Company, Inc., 67 Wall St., New York 5, N. Y.

Inco Nickel Alloys

INCO TRADE MARK

Monel® • "R"® Monel • "K"® Monel
"KR"® Monel • "S"® Monel • Nickel
Low Carbon Nickel • Duranickel • Inconel®
Inconel "X"® • Incoloy • Nimonics®



This is a ballot box, believe it or not!

THERE ARE FEW companies 100 years old. Centennial celebrations are news. Their survival in business is no happenstance. The daily record of failures makes any business undertaking "difficult, human and worthwhile."

Successful management is elected by the people. The competency of a company is passed upon by customer-voters hour by hour, day by day. Customers register their opinion of a firm's policies and practices, its integrity, its service, its progressiveness. They ultimately recognize character and place their stamp of approval upon it.

The market place is a symbol of economic freedom—where the consumer is free to choose this or that, or nothing at all.

The polling booth is the symbol of political freedom—another kind of customer choice.

When the political leader unduly restricts the freedom of the market place, or the businessman unduly influences political processes, both endanger our national well-being.

Political freedom and economic freedom are Siamese twins. They thrive or suffer together. If they work together, each respecting the other, America will continue to show its tail-lights to the rest of the world.

This freedom of choice makes the lowliest citizen a sovereign. He can substitute any form of Government for the American system. He can throw the biggest company into bankruptcy overnight by voting for its competitor.

Set this down as gospel:

A BUSINESS IS BIG ... ITS LIFE IS LONG ...
ONLY IF CUSTOMERS VOTE IT SO!

THE ROOTS of Cities Service companies are deep in the soil of American endeavor. They extend back four generations. They weathered the early vicissitudes of all small businesses. They survived wars and depressions, and grew strong because they were nurtured by the water and sunshine of quality and service.

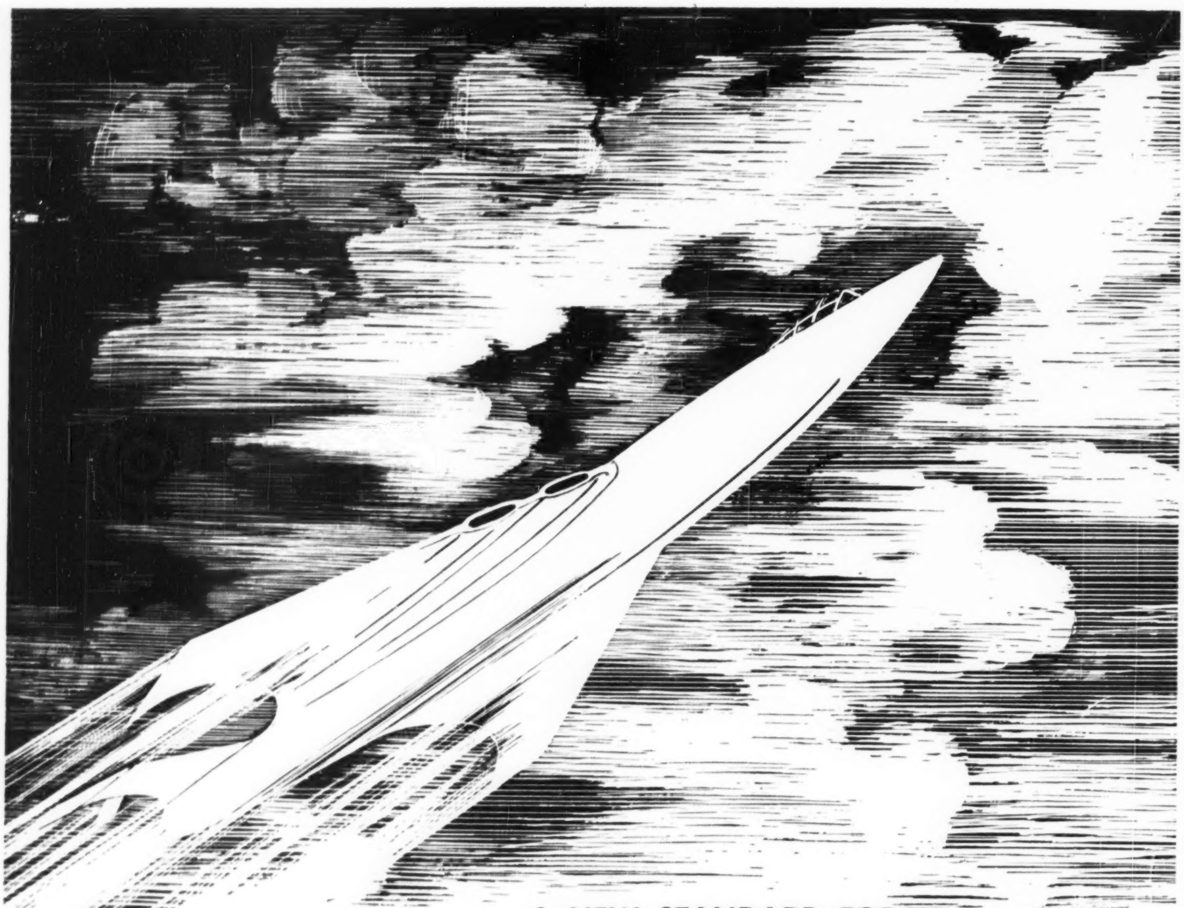
After eighty years a Cities Service company still does business near the site of Drake's first oil well in Titusville, Pennsylvania, and another company produces and sells natural gas in the Fredonia, New York area where it was discovered in 1821.

In 1952, customers voted Cities Service another span of life through their purchase of $900,000,000 worth of products and services—$500 million more than in 1945—in a free and competitive market place.

Twenty-odd thousand employees and 18,000 dealers of Cities Service are deeply aware of the source of their well-being and the long life of their company. They will strive to continue to merit the confidence of men and women in a country where economic freedom and political freedom are blood-brothers.

CITIES SERVICE

Quality Petroleum Products



A NEW STANDARD FOR
SKILL AND PRECISION IN THE MANUFACTURE OF

Engine components FOR JET AIRCRAFT

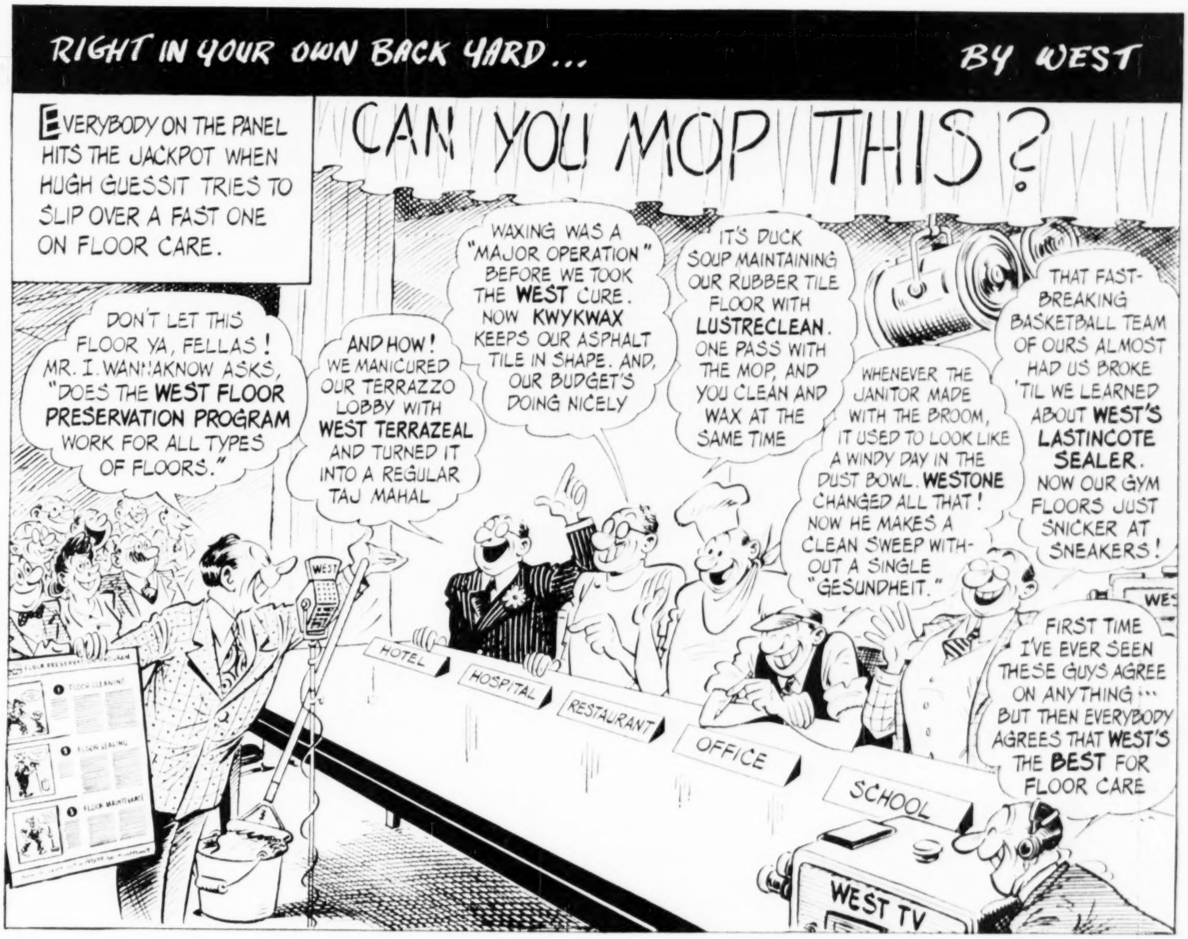
Fabricators of:

- Combustion Chambers
- Transition Liners
- Turbine Casings
- Tail Cones
- Aft Frames
- Brackets
- All Types of Spinnings
- Turbine Inlet Casings
- Other Essential Components

TWIGG INDUSTRIES INC.

SHEET METAL FABRICATION DIV.
Terre Haute, Indiana

HEAVY MACHINE TOOL DIV.
Brazil, Indiana



New floors cost $300,000,000 a year!

TYPE OF FLOOR	INSTALLED COST* OF 50,000 SQ. FT.
Asphalt Tile	$15,000
Concrete	18,000
Linoleum	21,000
Hardwood	27,500
Cork	39,000
Rubber Tile	44,000
Vinyl Tile	44,000
Ceramic Tile	65,000
Terrazzo & Mosaic	87,500
Marble	300,000

*Based on reports of reliable flooring contractors in urban areas.

How much will it cost you to replace worn-out floors today? The chart gives you some idea.

But, your floors *don't have* to wear out. They can be protected almost indefinitely.

How? With West's simple, proven FLOOR PRESERVATION PLAN. (1) *Cleaning* — remove all dirt without harming floors (2) *Sealing* — fill the pores. Provide a protective coating (3) *Maintaining* — put on a tough, anti-slip floor wax.

The West Plan offers you more than 20 proven products. A West Floor Specialist will be glad to help you select the program or product you need.

WEST DISINFECTING Company

42-16 West Street, Long Island City 1, N. Y.

Please send FREE booklet "Proper Care of Floors"

DEPT. 1

Name ________ Title ________

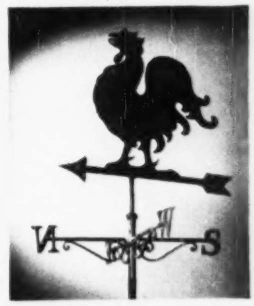
Company ________

Address ________

City ________ Zone ________ State ________

Compass Points

OF BUSINESS



F E B R U A R Y · 1 9 5 3

S U P P L E M E N T T O DUN'S REVIEW

P U B L I S H E D B Y D U N & B R A D S T R E E T I N C

What happened . . . .

. . . . was that output in this country advanced almost steadily after World War II, in the face of persistent rumors of an oncoming collapse. The situation is reminiscent of Mark Twain's comment, "Reports of my death are greatly exaggerated." The rumors are still circulating; whether they generate a healthy caution is a matter of conjecture. The facts are that business sales in 1952 rose 2 per cent to $544 billion, employment exceeded that in any previous year in history, and unemployment was close to the World War II low when almost any willing worker could find a job (Compass Points 4, 6, 24-26).

Higher pay scales . . . .

. . . . combined with the increase in the number of job-holders steadily boosted the level of personal income in 1952 (Compass Points 11-15). Even after paying their taxes, consumers had more money to spend than ever before. The advance in disposable income kept ahead of the rise in living costs so that an increase in the physical volume of buying could occur. But while an increased *amount* of money was spent in daily living, the *percentage* of disposable income spent for personal consumption continued to decline. At about 92.1 per cent, the proportion was lower than in any post-war year; it compared with the pre-Korea 96.5 per cent in 1949, and 85.9 per cent in the War-time 1944.

What proportion of the unspent funds went into liquid savings, or was used to buy homes or pay off debts is difficult to determine exactly. But there is evidence of a very considerable expansion in the liquid asset holdings of individuals. Deposits in the 529 mutual savings banks rose $1.6 billion in 1952, compared with a gain of $0.9 billion in 1951. The 1952 gain was the highest since the War-time record in 1945. Purchases of securities and insurance were each about $1 billion greater in 1952 than in 1951, representing a 16 per cent increase in personal insurance buying and a 25 per cent gain in personal ownership of securities.

Consumer credit rose . . . .

. . . . some 14 per cent in 1952 to a new peak of 23.6 billion; as a proportion of spendable income, it was somewhat above former levels. Consumers' short-term debts amounted to about 10.1 per cent of disposable income in 1952, compared with 9.2 per cent in 1951 and 10.0 per cent in 1939. Bankers were sometimes concerned that the bulk of the liquid assets appeared to be distributed largely among the upper-income groups, while the bulk of the credit was used by the lower-income groups who provide the main stimulus to retail trade.

More cars and appliances . . . .

. . . . were produced in 1952 than was thought possible at the outset of the year. A combination of reduced delivery schedules for military hard goods, expanded productive capacity in steel, and the ingenuity of manufacturers in substituting for some scarce materials made it possible for civilian goods output to exceed the earlier estimates.

Although the output of cars and trucks, at 5.6 million, was 18 per cent below a year ago, it was the fourth best annual achievement in the history of the industry, surpassed only in 1950 with 8.0 million vehicles, 1951 with 6.8 million, and 1949 with 6.3 million. Because of price increases, factory sales of automobiles in dollars, down about 16 per cent to $9 billion, did not fully reflect the decline in output. Refrigerator production in 1952 was 13 per cent higher, washing machine output 50 per cent higher, and television output 25 per cent higher than had been expected when the defense needs were analyzed earlier in the year.

Some industry observers think that automobile output may rise an additional 20-25 per cent in 1953. With the prospect for 50 new television stations, it is thought that the output of sets may rise 20 per cent to 6,000,000.

Strikes were more numerous . . . .

. . . . than at any time since 1946. The number of work stoppages in 1952 was 5 per cent above the 1951 level, but chiefly because of the prolonged steel strike, man-days of idleness were more than twice as large. It is estimated that about 0.5 per cent of total working time was lost. The unit volume of industrial output in 1952 declined by that percentage, according to the Federal Reserve Board's Index (Compass Point 16). The Index was at 219 (1935-1939=100) for the year, although production recovered rapidly after the steel strike, rising to 239 per cent of the pre-war average in the last month of the year.

Steel, aluminum, and electric power . . . .

. . . plants expanded markedly in 1952, with further increases in productive capacity planned for 1953. Steel output in 1952 amounted to 93 million tons; an estimated 18 million tons were lost because of the strike. Exceeded only in 1951 and 1950, this output was greater than in any World War II year. It is expected that steel capacity will rise about 2 per cent in 1953 to 120 million tons; industry guesses place output at 100-110 million tons.

There were some 800,000 tons of aluminum produced, a new record, 12 per cent above 1951 and 2 per cent above the World War II high. It is expected that the primary production of aluminum will reach 1.2 million tons in 1953, 1.5 million tons in 1954. This will bring production to about 10 times the pre-war volume. Electric power generating capacity is scheduled to rise from 81 million kilowatts an hour at present to 116 million kilowatts at the end of 1955 and 123 million by the end of 1956. The United States produced about 45 per cent of the world output of electricity in 1952, four times that in Russia. This was 66 per cent higher than in 1946, the first year of peace after world War II.

Capital outlays . . . .

. . . . for new plant and equipment will probably remain as high in 1953 as they were in the preceding two years, according to a survey conducted by the Securities and Exchange Commission and the U. S. Department of Commerce. If present plans materialize, spending for new facilities will about equal the $26.3 billion in 1951, fall slightly below the record $26.9 billion in 1952. Past comparisons are reflected in Compass Point 19 on page 15.

The intentions of non-defense industries to expand their productive facilities were noticeably stronger than in previous surveys, while the trend in defense industries was mixed. There were increases in the investment plans of beverage, paper, petroleum, and chemical companies.

Some 36 per cent of the tax- aided expansion programs for the defense program are completed, another 45 per cent are scheduled for completion in 1953. Many of the expansion goals are not to be reached for two more years; it is felt possible that new studies may call for an upward revision in present plans.

Military production . . . .

. . . . is now about seven times as large as it was at the time of the Korean outbreak. Deliveries of munitions and military construction were at the rate of about $12 billion a quarter in the last three months of 1952. They may rise to $14 billion a quarter by mid-1953, where they are to be sustained for two years.

By the end of 1952, deliveries of military equipment and construction since Korea amounted to $48 billion, or 37 per cent of the funds authorized. The $81 billion worth of goods on order or in various stages of production were covered by the remaining 63 per cent of the authorized funds.

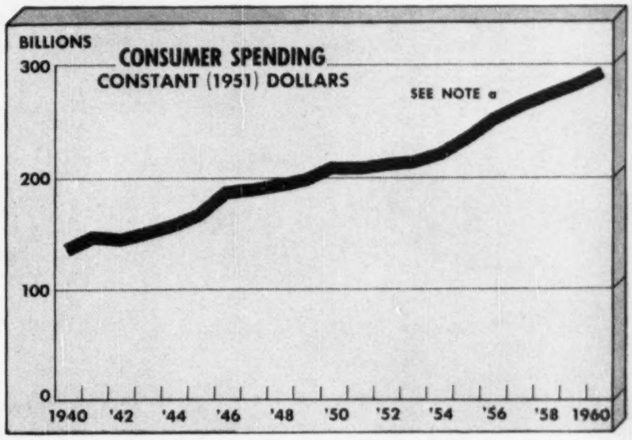
Order backlogs . . . .

. . . . remained large in many industries, particularly those connected with the defense effort. Manufacturers had about $75 billion worth of unfilled orders on their books in the fourth quarter of 1952, or about 14 per cent more than a year ago. The rise from 1951 was especially pronounced in the fabricated metal products, electrical machinery, and transportation industries. Backlogs in durables, of course, always constitute between 90-95 per cent of all unfilled orders. The $75 billion level of backlogs was more than three times that before Korea and amounted to about six month's sales.

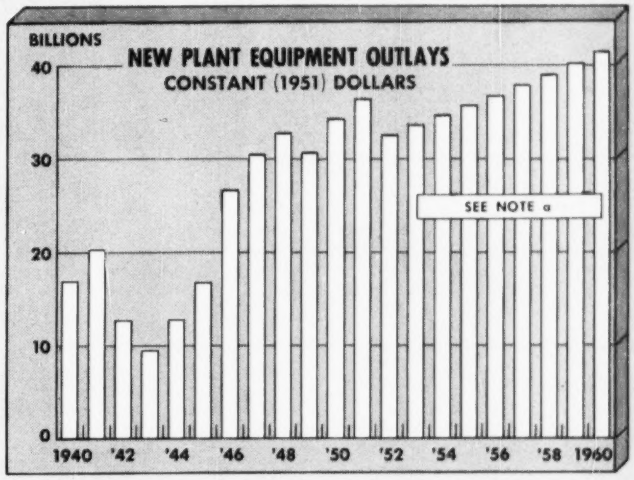
Continued on page 16

Reflected in these charts are patterns of spending which have appeared in the past, along with patterns which could appear in the future in a full-employment economy. The projection to 1960 is steadily upward, although in actuality, the level for any given year within the next eight might vary widely from the general trend. The projection assumes, in addition to full employment, that tax rates would be reduced below those in 1949 and that an expansion in business volume would be encouraged in several ways. With the 1960 pattern of consumer spending, consumer savings would run below the more recent rates, but about at those in 1948 and 1950.

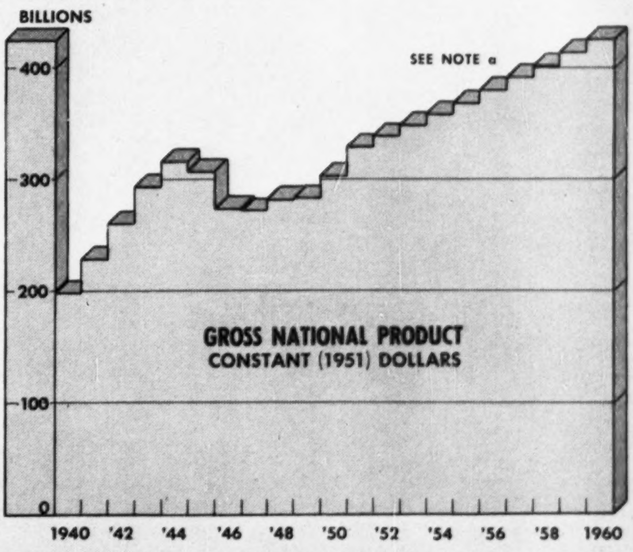
CHANGES IN . . .



MAY STIMULATE . . .



BOTH ARE REFLECTED IN . . .



NOTE a: FIGURES FOR 1953-1960 ARE ESTIMATES BY THE NATIONAL PLANNING ASSOCIATION.

39 COMPASS POINTS OF BUSINESS . . . .

	CENSUS		EMPLOYMENT				PRICES			
	1 POPULATION Millions	2 NUMBER OF BUSINESSES Thousands	3 EMPLOYMENT Civilian Millions	4 EMPLOYMENT Agricultural Millions	5 EMPLOYMENT Nonagricult'l Millions	6 UNEMPLOYMENT Millions	7 CONSUMERS' PRICES Index	8 RETAIL PRICES Index	9 WHOLESALE PRICES Index	10 INDUSTRIAL STOCK PRICE AVERAGES Dollars
1914	99.1	...	37.6	11.4	26.2	...	71.8	...	43.3	81.03
1919	105.1	...	42.0	10.5	31.5	...	123.8	...	88.1	99.78
1920	106.5	...	41.3	10.7	30.6	...	143.3	...	98.1	90.04
1921	108.5	...	37.7†	10.8†	26.9†	...	127.7	...	62.0	73.48
1929	121.8	3,097	47.6	10.0	36.3	1.5	122.5	120.9	61.9	311.24
1930	123.1	3,062	45.5	9.9	34.3	4.3	119.4	...	56.1	236.34
1931	124.0	2,984	42.4	9.8	31.3	8.0	108.7	...	47.4	138.58
1932	124.8	2,895	38.9	9.7	28.0	12.1	97.6	...	42.8	64.57
1939	130.9	3,306	45.8	9.3	35.6	9.5	99.4	99.0	50.1	142.66
1940	132.0	3,383	47.5	9.5	38.0	8.1	100.2	100.6	51.1	134.74
1941	133.2	3,364	50.4	9.1	41.3	5.6	105.2	108.3	56.8	121.82
1942	134.7	3,302	53.8	9.3	44.5	2.7	116.6	124.9	64.2	107.20
1943	136.5	3,045	54.5	9.1	45.4	1.1	123.7	134.0	67.0	134.81
1944	138.1	3,062	54.0	9.0	45.0	.7	125.7	137.5	67.6	143.32
1945	139.6	3,258	52.8	8.6	44.2	1.0	128.6	141.4	68.8	169.82
1946	141.2	3,605	55.2	8.3	46.9	2.3	139.5	155.2	78.7	191.65
1947	144.0	3,879	58.0	8.3	49.8	2.1	159.6	180.1	96.4	177.58
1948	146.6	3,991	59.4	8.0	51.4	2.1	171.9	192.7	104.4	179.95
1949	149.2	3,965	58.7	8.0	50.7	3.4	170.2	187.7	99.2	179.48
1950	151.7	3,980	60.0	7.5	52.5	3.1	171.9	189.0	103.1	216.31
1951	154.4	4,009	61.0	7.1	54.0	1.9	185.6	206.8	114.8	257.64
1952	157.0	4,053	61.3	6.8	54.5	1.7	189.8	210.8	111.6	270.76
'52 I	156.0	4,047	59.7	6.1	53.6	2.0	188.3	209.5	112.6	267.13
'52 II	156.6	4,063	61.3	7.2	54.1	1.7	189.1	210.2	111.5	264.18
'52 III	157.3	4,070	62.3	7.4	54.9	1.6	190.9	211.9	111.9	275.09
'52 IV	158.0	4,065	61.9	6.6	55.3	1.4	190.9	211.7	110.5	276.69

	SALES						INVENTORIES		
	21 FARM RECEIPTS Million dollars	22 EXPORTS Million dollars	23 IMPORTS Million dollars	24 RETAIL SALES Million $	25 WHOLESALE SALES Million $	26 MANUFACTURING SALES Million $	27 RETAIL INVENTORIES Million $	28 WHOLESALE INVENTORIES Million $	29 MANUFACTURING INVENTORIES Million $
1914	6,039	2,114	1,789	...	...	...	...	...	...
1919	14,570	7,920	3,904	36,549	...	60,509	...	...	12,906
1920	12,606	8,228	5,278	41,364	...	63,659	...	...	13,484
1921	8,116	4,485	2,509	32,954	...	41,897†	...	...	10,705†
1929	11,299	5,241	4,399	48,459	37,814	70,262	7,298	4,024	12,775
1930	9,050	3,843	3,061	41,989	...	57,017	...	3,497	11,265
1931	6,369	2,424	2,091	34,752	...	42,951	...	2,665	9,105
1932	4,735	1,611	1,323	25,013	...	30,774	...	2,307	7,332
1939	8,582	3,177	2,318	42,042	26,244†	61,340	5,285	3,075†	11,516
1940	9,056	4,021	2,625	46,375	28,919	70,313	5,819	3,255	12,873
1941	11,619	5,147	3,345	55,274	36,394	98,069	7,371	4,073	17,024
1942	16,136	8,079	2,756	57,212	41,109	125,158	7,438	3,830	19,348
1943	20,003	12,965	3,381	63,235	45,966	153,843	7,065	3,759	20,171
1944	21,153	14,259	3,929	70,208	49,828	165,387	7,105	3,969	19,578
1945	22,125	9,806	4,159	78,304	53,708	154,481	7,442	4,625	18,457
1946	25,336	9,738	4,942	102,488	71,915	151,402	11,231	6,606	24,620
1947	30,020	14,430	5,756	119,604	87,263	191,010	13,372	7,613	29,032
1948	30,464	12,653	7,124	130,521	95,172	211,560	15,190§	7,982	31,782
1949	28,129	12,051	8,622	130,721	88,252§	196,997§	14,570	7,651§	29,038§
1950	28,611	10,275	8,852	143,689†	97,666	231,746	18,304†	9,561	34,176
1951	32,908	15,030	10,967	158,223	107,203	268,014	19,530	10,150	43,056
1952	34,000	14,900	10,700	163,800	105,400	274,900	19,300	9,800	43,600
'52 I	6,807	4,025	2,877	36,324	25,048	67,881	19,685	10,298	43,732
'52 II	6,657	3,966	2,627	41,576	24,443	67,081	19,825	9,761	40,972
'52 III	9,213	3,307	2,532	40,465	26,818	67,441	20,434	9,925	42,660
'52 IV	10,600	3,600	2,700	45,000	29,100	72,500	19,300	9,800	43,600

† Figures for this and prior dates are from another source and are not strictly comparable with later data
‡ Beginning in 1937 tax refunds are deducted from receipts and are not included among expenditures.
● Annual rate seasonally adjusted * Quarterly figures seasonally adjusted. § Series revised from this date.

. . . . A RECORD OF BUSINESS ACTIVITY

	INCOME					PRODUCTION				
	11 HOURLY EARNINGS Indust. Workers *Dollars*	12 WEEKLY EARNINGS Indust. Workers *Dollars*	13 DISPOSABLE PERSONAL INCOME *Billion dollars*	14 DISPOSABLE INCOME Per Capita *1951 Dollars*	15 CORPORATE PROFITS AFTER TAXES *Billion dollars*	16 INDUSTRIAL PRODUCTION (PHYSICAL) *Index*	17 ELECTRIC POWER PRODUCTION *Billions kwh*	18 BUILDING PERMITS 120 Cities *Million $*	19 EXP'DITURES FOR PLANT & EQUIPMENT *Billion Dollars*	20 GROSS NATIONAL PRODUCT *Billion dollars*
1914	.223	11.01	33.2	867	1.9	61	...	735	...	38.5
1919	.477	22.08	63.5	906	5.7	72	...	1,181	...	77.9
1920	.555	26.30	66.8	813	3.9	75	56.6	1,256	...	85.0
1921	.514	22.18	52.8	709	0.0	58	53.1	1,493	...	68.2
1929	.566	25.03	82.5	1,016	8.4	110	116.7	2,490	9.2	103.8
1930	.552	23.25	73.7	939	2.5	91	114.6	1,408	7.6	90.9
1931	.515	20.87	63.0	890	−1.3	75	109.4	1,006	4.7	75.9
1932	.446	17.05	47.8	760	−3.4	58	99.4	336	2.6	58.3
1939	.633	23.86	70.2	1,027	5.0	109	161.3	1,029	5.2	91.3
1940	.661	25.20	75.7	1,089	6.4	125	179.9	1,104	6.5	101.4
1941	.729	29.58	92.0	1,237	9.4	162	208.3	1,196	8.2	126.4
1942	.853	36.65	116.7	1,381	9.4	199	233.1	644	6.1	161.6
1943	.961	43.14	132.4	1,413	10.6	239	267.5	419	4.5	194.3
1944	1.019	46.08	147.0	1,477	10.8	235	279.5	709	5.2	213.7
1945	1.023	44.39	151.1	1,454	8.5	203	271.3	1,028	8.7	215.2
1946	1.086	43.82	158.9	1,409	13.9	170	269.6	2,089	14.8	211.1
1947	1.237	49.97	169.5	1,339	18.5	187	307.4	2,470	20.6	233.3
1948	1.350	54.14	188.4	1,389	20.7	192	336.8	3,111	22.1	259.0
1949	1.401	54.92	187.2	1,379	16.3	176	345.6	3,131	19.3	258.2
1950	1.465	59.33	205.5	1,455	21.2	200	388.7	4,466	20.6	284.2
1951	1.594	64.93	225.0	1,458	18.7	220	432.3	3,654	26.3	329.2
1952	1.673	68.15	234.8	1,464	17.2	218	462.1	3,523	26.9	345.0
I '52	1.646	67.07	230.5	1,457	18.1•	221*	115.0	715	6.2	339.7•
II '52	1.657	66.56	231.5	1,448	16.6•	210*	110.4	952	6.9	342.6•
III '52	1.672	67.88	235.3	1,464	16.4•	211*	115.2	973	6.4	343.4•
IV '52	1.717	71.08	➡ 242.1	1,495	➡ 17.6•	232*	121.5	883	7.3	355.1•

	FEDERAL			FINANCE					FAILURES	
	30 FEDERAL RECEIPTS *Million dollars*	31 FEDERAL EXPENDITURES *Million dollars*	32 GROSS FEDERAL DEBT *Billion dollars*	33 CONSUMER CREDIT Outstanding *Billion Dollars*	34 LOANS OF COMM'L BANKS *Billion Dollars*	35 CURRENCY OUTSIDE OF BANKS *Million $*	36 DEMAND DEPOSITS ADJUSTED *Million $*	37 TURNOVER OF DEMAND DEPOSITS *Times*	38 BUSINESS FAILURES *Number*	39 LIABILITIES OF FAILURES *Million $*
1914	735	735	1.2	...	13.2	1,533	10,082	...	18,280	357.9
1919	5,152	18,515	25.5	...	22.4	3,593	17,624	36.1	6,451	113.3
1920	6,695	6,403	24.3	...	28.1	4,105	19,616	37.3	8,881	295.1
1921	5,625	5,116	24.0	...	26.1	3,677	17,113	32.2	19,652	627.4
1929	4,033	3,299	16.9	6.3	36.0	3,557	22,809	40.5	22,909	483.3
1930	4,178	3,440	16.2	5.6	32.0	3,605	20,967	33.8	26,355	668.3
1931	3,190	3,652	16.8	4.6	25.2	4,470	17,412	28.6	28,285	736.3
1932	2,006	4,535	19.5	3.5	20.1	4,669	15,728	23.9	31,822	928.3
1939	5,103‡	8,966‡	40.4	7.0	17.2	6,401	29,793	19.4	14,768	182.5
1940	5,265	9,183	43.0	8.2	18.8	7,325	34,945	18.6	13,619	166.7
1941	7,227	13,387	49.0	8.8	21.7	9,615	38,992	19.4	11,848	136.1
1942	12,696	34,187	72.4	5.7	19.2	13,946	48,922	18.4	9,405	100.8
1943	22,202	79,622	136.7	4.6	19.1	18,837	60,803	17.4	3,211	45.3
1944	43,892	95,315	201.0	5.0	21.6	23,505	66,930	17.3	1,222	31.7
1945	44,762	98,703	258.7	5.6	26.1	26,490	75,851	16.1	809	30.2
1946	40,027	60,703	269.4	8.7	31.1	26,730	83,314	16.5	1,129	67.3
1947	40,043	39,289	258.3	11.9	38.1	26,476	87,121	18.0	3,474	204.6
1948	42,211	33,791	252.3	14.4	42.5	26,079	85,520	19.2	5,250	234.6
1949	38,246	40,057	252.8	16.8	43.0	25,415	85,750	18.7	9,246	308.1
1950	37,045	40,167	257.4	20.1	52.2	25,398	92,272	20.3	9,162	248.3
1951	48,142	44,633	255.2	20.6	57.7	26,303	98,234	21.7	8,058	259.4
1952	62,129	66,145	259.1	23.6	63.5	27,600	100,900	21.5	7,611	283.3
I '52	20,392	16,263	258.1	19.6	57.8	25,700	94,800	21.2	2,005	74.9
II '52	17,930	18,604	259.1	20.9	59.6	76,400	95,800	21.5	2,089	71.9
III '52	13,951	17,830	262.7	21.7	61.6	27,600	96,400	20.8	1,713	59.2
IV '52	13,252	18,668	267.4	➡ 23.7	64.4	27,600	101,300	22.4	➡ 1,804	77.2

➡ **Quarterly figures that are significant either for their change or their lack of change from previous levels.**
Fourth quarter figures for most series are based upon preliminary estimates and incomplete data.
Sources of the statistical series and additional information concerning the figures appear on pages 20 and 21.

Sales volume . . . .

. . . . in most lines expanded markedly in the last quarter of 1952. Manufacturers' shipments were about 8 per cent above the corresponding 1951 level and almost three times as large as in the second quarter of 1950, before the Korean outbreak. (Compass Point 26).

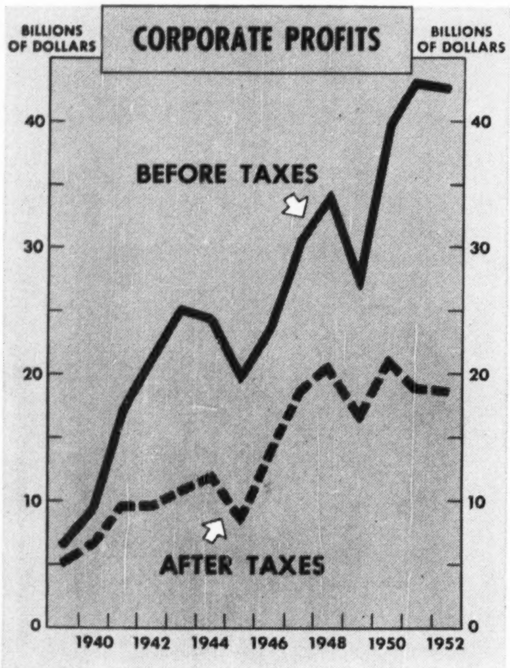
Retail sales rebounded rapidly in the latter part of 1952 from the Summer doldrums. They rose above the January 1951 high, when scare-buying was prevalent, for the first time in October 1952. After allowance for increased prices, unit volume was not quite at the peak level, but the achievement is significant in view of the fact that it did not result from panic and was somewhat low relative to income levels. Christmas volume reached a new record, bringing total retail sales for the year up to about $163.8 billion, 3 per cent above the previous peak in 1951.

The increase in production and sales required a moderate expansion in business inventories in the fourth quarter of 1952. For the year as a whole, retailers' inventories dipped 1 per cent, wholesalers' 3 per cent, contrasting with a rise of 1 per cent in manufacturers' stocks, largely because of defense production needs.

Housing starts increased . . .

. . . . to more than 1.1 million units in 1952, up 5 per cent from a year ago and within 18 per cent of the peak in 1950. Spending for new residences reached almost $12 billion. While some of the experts thought that spending for new homes might be reduced by about $1 billion in 1953, it was felt that the construction industry could make up the loss on repair and modernization jobs. While new housing starts may range between 850,000-1,000,000 units, the housing problem appeared no longer as a shortage of dwelling units, but as a shortage of living space. The renovation of the attics, basements, and garages of small homes to make room for growing families was regarded as a prevalent need.

There is a tendency toward home ownership as rentals increase. While this tendency became noticeable with rent decontrol, the vacancy rate has not increased appreciably. In the latter part of 1952 it was at 3 or 4 per cent, slightly above the 2 per cent in 1947, but below the prewar 4 or 5 per cent. The rates vary considerably, of course, by areas and types of residence.



It should be noted that the figures in this chart are in current dollars, not adjusted for price changes, whereas those in the chart on the facing page are in constant (1951) dollars. Corporate profits after taxes constituted roughly 6 per cent of national income in 1952, compared with nearly 7 per cent in 1951, 9 per cent in 1950, and an average of almost 8 per cent in the years 1945-1949. Figures are from the Commerce Dept.

The suspension or relaxation of controls on non-defense construction may well result in an expansion in the building of social, recreational, commercial, and institutional facilities. The construction of these kinds of structures dipped in 1952 to a smaller proportion of the total construction than before Korea.

That construction volume in the early months of 1953 would remain high was presaged in the building permits figures for the fourth quarter of 1952 (Compass Point 18). There is usually a lag of several months between the time the permits are granted and the construction is started.

Prices edged downward . . .

. . . . at the wholesale level in 1952, although they were up fractionally at retail (Compass Points 7 and 8). The cost of living, as measured by the Consumer's Price Index, was at a peak at the year-end. That the public might find it slightly less expensive to live in 1953 was reflected to some extent by the Department of Agriculture's estimates. Cattle marketings are expected to increase 10-15 per cent, probably with a somewhat depressing effect on the prices for live animals. It is thought, however, that a decline of more than 1 or 2 per cent in retail meat prices is not probable, since the trend in transportation and processing costs has been steadily upward.

Farm income . . .

. . . . was close to $34 billion in 1952, up approximately 3 per cent from 1951 (Compass Point 21). While farm output rose about 4 per cent from 1951, the prices received by farmers were off about 4 per cent. Although farm production may rise in 1953, the continued tendency toward higher costs and softened selling prices may persist, reducing farmers' net income by about 5 per cent from that in 1952.

Increased costs and the shortage of farm labor may stimulate further mechanization and modernization. Taking into account their large liquid assets and the relatively low level of farm mortgage debt, a slight decline in farm income should not change farm buying patterns significantly.

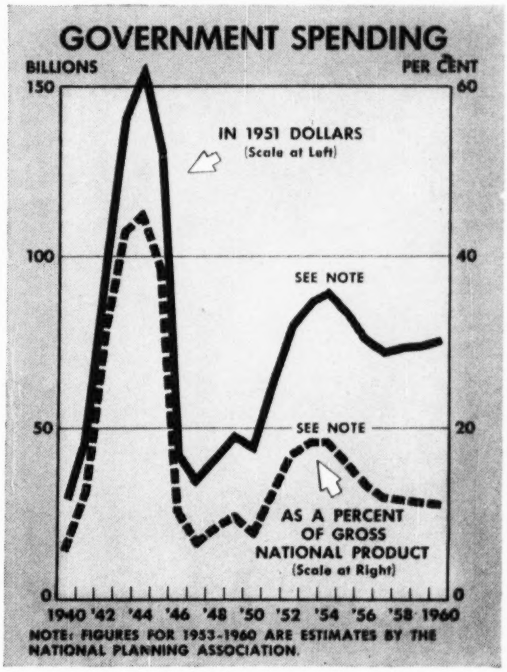
It Can Happen . . . .

. . . . is different from "It Will Happen," or "It Should Happen"—and that difference is underlined

in many of the current appraisals of the long-term future outlook for business. What can happen has been analyzed in terms of past developments, taking into account the influence of various kinds of planning. Whether or not the possibility becomes reality, of course, depends on the interplay of goals and attitudes of business men, labor, Government officialdom, and the public at large. The projections are labelled "feasible and sustainable possibilities."

These possibilities are portrayed graphically on page 13 and below; data are from a recent report by the National Planning Association called "The American Economy in 1960." For those who have felt concern that the expected levelling off in defense spending might bode ill for business, in this are some interesting thoughts.

It was determined first how much could be produced in an economy of high and sustainable employment; for this, estimates of the increase in the labor force and changes in productivity were used. Then various consumption patterns, based on hypothetical changes in tax rates, consumer spending, domestic and foreign investment, and Government spending for non-defense projects were combined into a modified projection. Underlying all of the data are two basic assumptions: that we will have neither full-scale war nor true peace in the next ten years and that defense spending will be running at an annual rate of $40 billion in 1960.



One of the assumptions basic to the projection for a Gross National Product of $425 billion in 1960 is that defense spending would then be running at a maintenance level of $40 billion; this compares with the present level of $50 billion, and the pre-Korean annual rate of $17 billion. Federal non-war purchases would take roughly the same proportion of production as in recent years, but a much lower proportion than in the 1930's.

It is projected that Gross National Product could reach a feasible and sustainable $425 billion in 1960. The figure is stated in terms of 1951 dollars in order to remove the effects of possible price fluctuations, thereby measuring changes in unit volume.

A similar survey by the Department of Commerce, called "Markets After the Defense Expansion," projects only to 1955 and assumes that defense spending will range between $50-$55 billion. It suggests that Gross National Product could reach $365 billion (in 1951 dollars) in 1955, agreeing closely with the $368 billion thought possible for that same year by the National Planning Association. In his Annual Economic Report to Congress, President Truman emphasized the possibility of a Gross National Product between $475-$500 billion in 1962.

To reach the projected $425 billion in 1960, there are implied these several changes from present behavior: a relief of the tax burdens on both individuals and corporations, the greater encouragement of private domestic investment in production facilities and housing, greater encouragement of foreign trade and capital investment abroad, and public and private co-operation in an effort to bring price and wage levels in line with needs for full employment and economic stability.

Whether the necessary changes could be effected is hard to determine, although a growing sophistication in the general attitude toward matters economic is probably one of the happier aspects of to-day's business picture.

The near-term outlook . . . .

. . . . in the less rarified atmosphere of to-day's expediencies appears bright. There are a number of factors expected to contribute to high-level stability. Rising expenditures for defense should help to sustain employment and income. The fulfillment of order backlogs alone could sustain high-level output for several months. A joint survey by the U. S. Commerce and Labor Departments describes an encouraging outlook for construction in 1953. Expected to reach a new peak, perhaps 3 per cent above that in 1952, new construction outlays may rise in both the public and private categories.

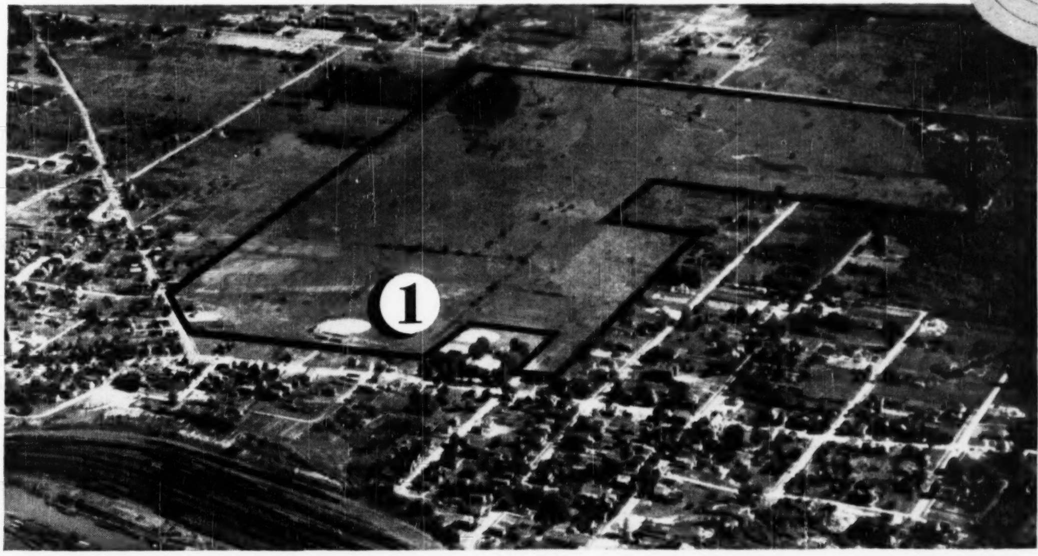
It seems likely that there will be continued pressure on the part of the labor unions for wage increases. Although the percentage of union contract renewals without any wage change may rise from the 7 per cent in the latter half of 1952, the tendency should be toward a slightly higher over-all level of income. Whether consumers spend a larger or a smaller proportion of it will depend to a considerable extent on selling techniques. Increased competition, coupled with rising costs may further dent the margin of profit.

It seems likely that inventory accumulation on the part of business will remain conservative, lessening the possibility of any serious reaction which might follow a rapid expansion.

While there has been some weakness reflected in the declining levels of basic commodity prices and corporate profits, a downward adjustment in tax rates could stimulate some capital investment which might otherwise have been deterred. A rise of 2 or 3 per cent in the real, or physical volume, of Gross National Product in 1953 seems reasonable; changes in prices, of course, will influence the direction of the dollar volume of output.

BEST LOCATION IN THE NATION

Headline Industrial News from the Cleveland-Northeast Ohio Area



① *Ashtabula City Site, 175 acres, 1½ miles north of main city district near Ashtabula harbor.*

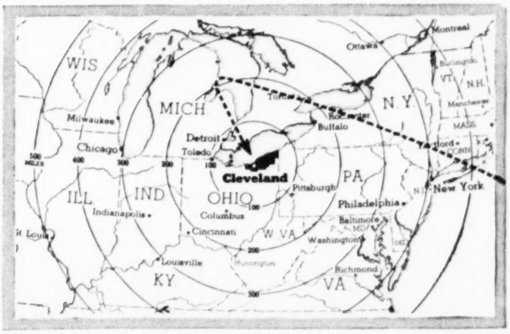
2 LARGE NEW PLANT SITES NOW AVAILABLE ON LAKE ERIE'S "CHEMICAL SHORE"

Shown on this page are two outstanding new plant sites, both located in small-city or semi-rural areas within an hour and a half drive of Cleveland.

Ideally located for chemical production as well as many types of general manufacturing, with numerous basic chemicals at hand, these sites offer easy access to mainline rail and highway facilities, soil conditions favorable to heavy structures, nearby lake ports.

Utilities—Dependable electric power supply available from Cleveland Electric Illuminating Company 1,144,000-kilowatt interconnected system. Natural gas available in area. Unlimited fresh water from Lake Erie.

Nearby Communities—Ashtabula and Lake Counties have a combined population of 170,000. Both sites easily accessible by automobile or bus.



Low Taxes—Property taxes per $100 valuation are low in the two townships: Ashtabula $1.28; Perry $2.33. City of Ashtabula: $2.61.

A Rare Opportunity—Act Today

For complete information about either of these new sites and the opportunities for your company here, phone, wire or write Development Department, Richard L. DeChant, Manager. All inquiries held in strict confidence.

② ***Perry Township Site, 368 acres, Lake Erie frontage 2500 feet, 20 miles southwest of Ashtabula, 8 miles northwest of Painesville.***

THE BEST LOCATION IN THE NATION — 81,000,000 customers within 500 miles . . . 3,500 manufacturer-suppliers right at hand

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

85 PUBLIC SQUARE • CHerry 1-4200 • CLEVELAND 1, OHIO

Sources of the

CENSUS 1. Population: *U. S. Bureau of the Census;* mid-period estimates of total population including armed forces overseas—2. Number of Businesses: *U. S. Office of Business Economics;* number of nonfarm business organizations under one management excluding professional practises

EMPLOYMENT 3. Civilian Employment: *U. S. Bureau of the Census,* data prior to 1929 from *National Industrial Conference Board;* monthly averages of noninstitutional population 14 years of age and over who were at work, temporarily absent because of sickness, strike, or vacation, or with instructions to report for work within 30 days—4. Agricultural Employment: *U. S. Bureau of the Census,* data prior to 1929 from *National Industrial Conference Board;* monthly averages of those employed in agriculture—5. Nonagricultural Employment: *U. S. Bureau of the Census,* data prior to 1929 from *National Industrial Conference Board;* monthly averages of those employed outside of agriculture—6. Unemployment: *U. S. Bureau of the Census;* monthly averages of those not at work but looking for work, also includes those who would have sought work except for temporary illness, belief that no work existed, or waiting to return from an indefinite lay-off

PRICES 7. Consumers' Prices: *U. S. Bureau of Labor Statistics;* Adjusted basis; average cost of some 200 goods and services purchased by moderate income families, as a per cent of the 1935-1939 level—8. Retail Prices: *U. S. Office of Business Economics,* based upon data collected by other Government agencies; average prices at retail stores as a per cent of the 1935-1939 level—9. Wholesale Prices: *U. S. Bureau of Labor Statistics;* average wholesale prices of some 2,000 items as a per cent of the 1947-1949 level—10. Industrial Stock Price Averages: *Dow-Jones & Company;* daily average of the prices of 30 industrial stocks

INCOME 11. Hourly Earnings of Industrial Workers: *U. S. Bureau of Labor Statistics;* average for production workers, reflects extra pay such as for overtime and late shift work—12. Weekly Earnings of Industrial Workers: *U. S. Bureau of Labor Statistics;* average for production workers before any payroll deductions, reflects length of work week and hourly earnings—13. Disposable Personal Income: *U. S. Office of Business Economics;* personal income remaining after deduction of taxes and of nontax payments to government such as fines, licenses—14. Disposable Income per Capita, 1951 Dollars: Compiled by dividing Series 13 by the items in Series 1 and adjusting results for changes in Consumers' Prices, Series 7—15. Corporate Profits After Taxes: *U. S. Office of Business Economics;* total corporate profits after deducting all tax liabilities

PRODUCTION 16. Industrial Production (Physical): *Federal Reserve Board;* average physical volume of manufacturing and mining output as a per cent of the 1935-1939 level—17. Electric Power Production: *Federal Power*

Compass Points

Commission; total produced by utilities and industrial establishments excluding hotels, office buildings, and other commercial establishments—18. Building Permits, 120 Cities: *Dun & Bradstreet, Inc.;* total value of permits issued in 120 reporting cities—19. Expenditures for Plant and Equipment: *U. S. Department of Commerce and Securities & Exchange Commission;* totals for private industry excluding agriculture—20. Gross National Product: *U. S. Office of Business Economics;* total market value of all goods and services produced by the economy before any deductions for depreciation

SALES 21. Farm Income: *U. S. Bureau of Agricultural Economics;* total receipts from farm marketings, CCC loans, and Government payments—22. Exports: *U. S. Bureau of the Census;* total of all merchandise—23. Imports: *U. S. Bureau of the Census;* total of all merchandise—24. Retail Sales: *U. S. Office of Business Economics and Bureau of the Census;* data prior to 1929 from *Kuznets "National Income and Its Composition";* total sales of all retail stores—25. Wholesale Sales: *U. S. Office of Business Economics;* total sales of all wholesalers—26. Manufacturing Sales: *U. S. Office of Business Economics,* data prior to 1929 *from Kuznets National Income and Its Composition";* total of all manufacturers' sales

INVENTORIES 27. Retail Inventories: *U. S. Office of Business Economics;* book value at end of period—28. Wholesale Inventories: *U. S. Office of Business Economics;* book value at end of period—29. Manufacturing Inventories: *U. S. Office of Business Economics;* data prior to 1929 from *Kuznets "National Income and Its Composition";* book value at end of period

FEDERAL 30. Federal Receipts: *U. S. Treasury Department;* annual totals are for fiscal years, quarterly totals are for calendar quarters—31. Federal Expenditures: *U. S. Treasury Department;* annual totals are for fiscal years, quarterly totals are for calendar quarters—32. Gross Federal Debt: *U. S. Treasury Department;* annual figures are at end of fiscal years, quarterly figures are at end of calendar quarters.

FINANCE 33. Consumer Credit: *Federal Reserve Board:* total consumer credit outstanding at end of period—34. Loans of Commercial Banks: *Federal Reserve Board;* volume of loans outstanding from all commercial banks at end of period—35. Currency Outside of Banks: *Federal Reserve Board;* volume outstanding at end of period—36. Demand Deposits Adjusted: *Federal Reserve Board;* total at end of period excluding interbank and Government deposits and cash items in the process of collection—37. Turnover of Demand Deposits: *Federal Reserve Board;* annual turnover rate of adjusted demand deposits

FAILURES 38. Business Failures: *Dun & Bradstreet, Inc.;* total number of industrial and commercial failures—39. Liabilities of Failures: *Dun & Bradstreet, Inc.;* total current liabilities excluding long-term publicly held obligations

Letters TO THE EDITOR

CANDLE CHEERS

Detroit, Mich.

Dear Sir:

Please send me three copies of the November issue of DUN'S REVIEW.

I thought Mr. R. W. Johnson's article, "How to Light a Candle" was very fine and I would like to send it to some of my friends . . .

Josephine M. Bushey

Roberts Toledo Rubber Co.
Toledo, Ohio

Dear Sir:

Do you have extra copies of the article from your November 1952 issue entitled, "How to Light a Candle" by Robert Johnson? Would like to obtain six if available.

Robert Roberts
President

Sweeney Lithograph Co.
Belleville, N. J.

Dear Sir:

DUN'S REVIEW, as it comes to us every month and is eagerly looked for, gives us more condensed and powerful information of our American economy not readily found in any other publication that comes to my desk.

It so happens that I have been invited to speak before a group of teachers during the observance of Benjamin Franklin's birthday week and in my desire to be inspirational, I would like to have permission to quote from some of your observances—"Heard in Washington" as well as from the article "How to Light a Candle" . . .

John A. Wilkens
Vice-President and Treasurer

Carrier Conveyor Corp.
Louisville, Ky.

Dear Sir:

If possible, we would like to receive two dozen reprints of the article, "How to Light a Candle" . . .

R. M. Carrier, Jr.
President

Central Engineering & Supply Co.
Dallas, Tex.

Dear Sir:

Please accept my heartfelt thanks for recognizing and publishing "How to Light a Candle" . . .

This article by Robert W. Johnson was an eye opener to me. I have been aware that the balance of power in politics had shifted but I had not realized why or to what extent. This offers management a great opportunity to render a valuable

How Palletainers save you money in WAREHOUSING operations

Speed is as important in warehousing as in production or shipping. Speed of placing goods in storage, making inventory, preparing orders for shipment. You must save *time* to help hold the cost line.

USP Palletainers save you *maximum* time on every one of these warehousing operations!

Placing goods in storage is a snap since items can be placed in Palletainers at the production line and trucked to warehouse without rehandling. New reinforced malleable iron legs provide 8-way entry for truck forks, assure safe, solid grip for stacking to ceiling height.

Inventory time is cut to the bone because contents of Palletainers are always visible. No stooping, no peering, no climbing of ladders. Palletainers are ideal for stampings, forgings, packaged parts, vegetables, fruit . . . *anything* that won't go through a 2" mesh!

Order make-up is a cinch. Warehouse Palletainers feature a hinged front to permit selection without unstacking! For large orders, of course, Palletainers themselves are the perfect shipping unit. Reinforced steel rod construction is virtually indestructible, eliminates all damage in transit under normal conditions. Light weight holds down freight costs; empty Palletainers fold to ¼ depth for return trips.

Get all the facts on Palletainers today. Write for full information, specifications and costs. USP materials handling engineers are at your service for obligation-free consultation. Let them show you all the ways to save time, worry and costs with USP Palletainers.

UNION STEEL PRODUCTS COMPANY

ALBION, MICHIGAN

1903 · *Our Golden Anniversary* · 1953

USP

A SYMBOL OF QUALITY

service to both Government and industry.

I hope you will continue to help point the way. You can. Your publication is widely read, not only by management, but by commentators in the news and on the air who have wide followings.

Jim Fox

INDIVIDUALITY

Engineering Metal Products Corp.
Indianapolis, Ind.

Dear Sir:

In going over the October DUN'S REVIEW I am constrained to write regarding the article titled, "Can Small Business Get the Capital They Need" by Edwin B. George.

It occurred to me that this article lacked comments by small successful business men.

I think that it is wrong and contrary to free enterprise to offer any special help to any business, small or large, except possibly in the case of national emergency. Free enterprise, to my way of thinking, is that system where anyone can embark upon any enterprise. His success depends on several things—

1st—his determination
2nd—his training and knowledge in the line he is considering
3rd—his character.

These are not necessarily in order, as they are all necessary. They involve hard work, sacrifices in early stages, honesty, and the ability to make friends.

I am against the ameliorating of competition. Only by struggling and sacrifice during the formative period can one be successful, for there are bound to be adverse conditions which one must meet, to survive. He need not be a genius, if he has the above attributes, especially in the matter of selecting personnel with the characteristics mentioned above.

However while this aspirant to start a business should be in no way hampered by special consideration, likewise he should not be hampered by bureaucrats and taxes which sap the proceeds of his energies.

All business should have sufficient profits, after taxes, to lay away a nest egg for bad times and expansion. Any excess profit tax should be used to buy government bonds and put in escrow against a time when this money would be available to carry over depressed times, so that employees would have the assurance that they would not be deprived of income during the times of stress. Or possibly further in this direction, a certain amount of profits, whether excess or otherwise, should be laid away as mentioned above.

If the enterprise cannot make a go of it or flourish in the field of competition, they will fail for lack of one of the above mentioned characteristics, and do not deserve to be subsidized. I am very much

against bolstering up incompetence in competition with competence.

James H. Carnine

Harold P. Sammann Co.
Chicago, Ill.

Dear Sir:

I've read with some interest and some unhappiness John Glover's article in your October issue "Why Depend on a Hunch." I must protest his slavish worship of management's twin-headed god, "efficiency and profit."

If hunches are to be discredited and humans are to be guided by formula guided management, those brilliant ones who periodically change the way we make our livings will not be accepted nor even heard for the formulas that the human uses and guides for duplicating physical processes will no longer be subject to criticism nor change.

If the most brilliant of the brilliant ones were allowed to establish absolute formulas so they could judge our behavior in order to change it for the purpose of improving our efficiency profit wise, the feudal system would be on our backs again and one-way communication would be even more firmly established than it is now.

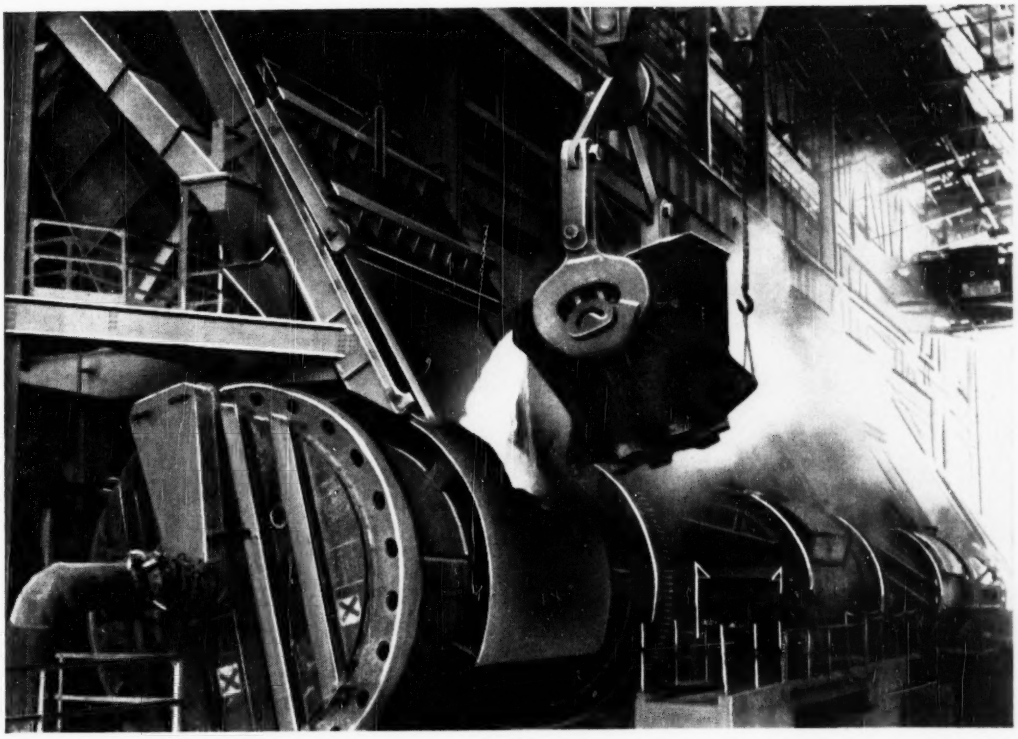
All of us are paid partly in money but mostly in other things after we have done our work—and not before—and the size of our pay envelopes depends on our ingenuity in the use of two of our possessions—our intelligence and time. Those who look at the human as a unique thinking creature, capable of creating his own more perfect principals and goals, can take advantage of the human capacity to think and plan and provide an atmosphere in which all of us can construct a more comfortable world.

None of us were born with a desire to make a profit nor even be efficient. Most of us learn to worship this by listening to those who enjoy playing with money and many of us accept such goals uncritically so that we spend the only life we have chasing something that "they say" is desirable. We take other men's ideals so that we have little time for raising our children or to go hunting or to do a little living.

But I do not frown on making a profit. The extra money is a cozy marker to be brought out of hiding when disaster strikes or it rains a little. The profit is a sign that we kept our desires on a leash or that we served the public well. But the joy we have from living while we made our profits is the thing men notice and remember and judge. Men would judge us by other standards even if we stenciled the size of our bankrolls on our backs.

Harold Sammann
President

These are words to ponder in this day of numbers rather than names.—Ed.



Molten "matte" from the reverberatory furnace being charged into a converter at Chile Exploration Company's new Chuquicamata Sulphide Plant. The "blister" product of the converter, about 99% copper, is being shipped to Anaconda's Raritan Copper Works at Perth Amboy, New Jersey, for electrolytic refining.

there's a new flow of copper in Chile!

On November 5, 1952, the first copper was poured from Chile Exploration Company's new Sulphide Plant at Chuquicamata, Chile. Thus was marked the beginning of a new cycle of development of the Chuquicamata Mine—the tapping of the huge reserves of copper sulphide ore.

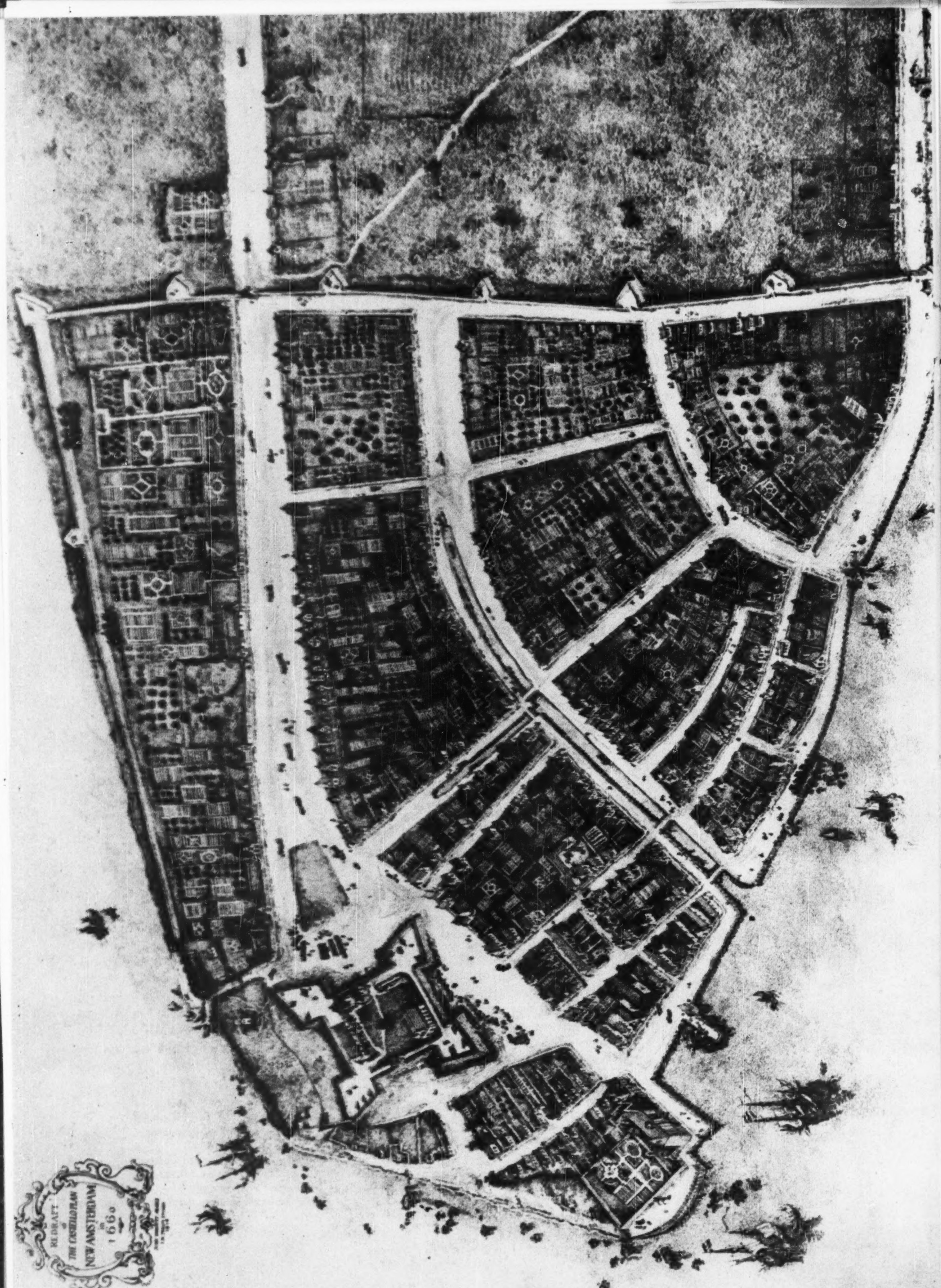
Heretofore, Chile Exploration Company had mined and treated only the oxide type ores, producing in recent years about 360,000,000 pounds of copper annually. Now, with the new plant, the Company is beginning to mine and process the sulphide ore underlying the oxide ore zone. The Sulphide Plant, begun late in 1948 to handle the increasing amounts of sulphide ore encountered in the pit, is built on a scale in keeping with the magnitude of the ore body. From this multimillion dollar project will come a steadily increasing flow of copper until its output capacity, coupled with that of the existing oxide plant, *exceeds 500,000,000 pounds of copper a year.*

This expansion of Chilean copper production is only one part of Anaconda's company-wide expansion, improvement and modernization program. Other phases of this program are increased zinc production . . . an aluminum reduction plant . . . a new "open pit" copper mine at Yerington, Nevada . . . increasing copper production from Butte mines . . . modernization and expansion of fabricating plants. All serve the same purpose: more metals for the metal-hungry U. S. economy. 52328-A

ANACONDA

COPPER MINING COMPANY

The American Brass Company
Anaconda Wire & Cable Company
Andes Copper Mining Company
Chile Copper Company
Greene Cananea Copper Company
Anaconda Aluminum Company
Anaconda Sales Company
International Smelting and Refining Company


REDRAFT
of
THE CASTELLO PLAN
NEW AMSTERDAM
in
1660

1653 – 1953

THE THREE HUNDREDTH ANNIVERSARY
OF THE INCORPORATION
OF THE CITY NOW KNOWN AS NEW YORK

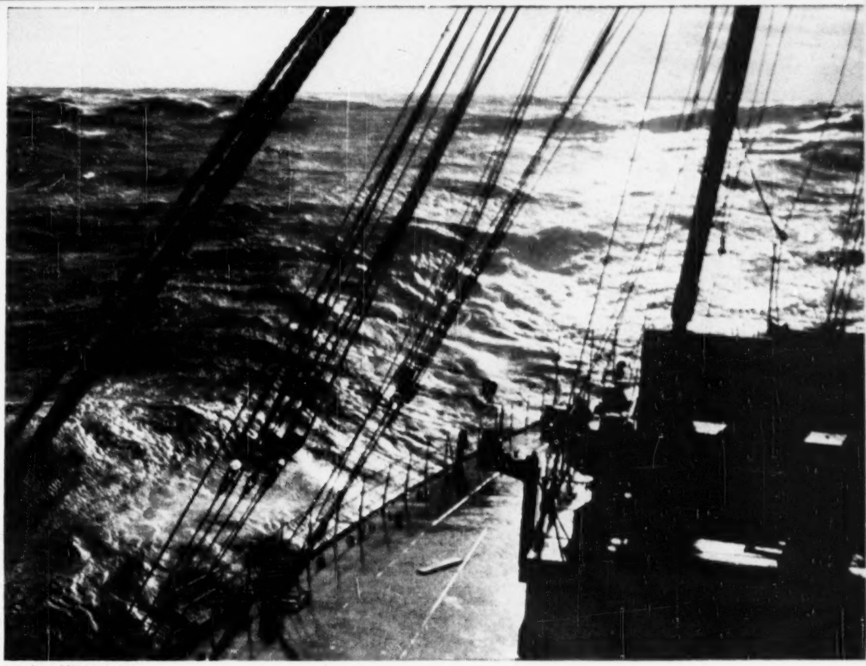
A GREAT deal of water has flowed down the Hudson to the broad reaches of the Atlantic since the Dutch West India Company founded New Netherland in 1624.

Two years later, on May 6, 1626, Peter Minuit as Director-General of New Netherland concluded one of the shrewdest real estate deals in history when he purchased Manhattan from the Indians for a handful of trinkets valued at $24.00—and changed its name to New Amsterdam.

After 27 more years of Dutch rule, New Amsterdam with a population of 800, was incorporated as a city on February 2, 1653—just 300 years ago.

Seized by the English, retaken by the Dutch, and later ceded by them to the English, only to be lost again to the army of Gen. Washington, the tight little island of Manhattan has indeed grown—grown to the greatest city in the world—a fine tribute to Peter Minuit, a man who knew a bargain when he saw one.

The map reproduced on the opposite page is from the I. N. Phelps Stokes collection of the New York Public Library. It is known as the Costello Plan, the earliest known plan of New Amsterdam and the only one dating from the Dutch period. It is a copy of the original, now preserved in the Medici Library, Florence, Italy. It is interesting to note that the wall shown along the northern limits of the city on what is now Wall Street, was built in 1653, the year of incorporation.



DEVANEY PHOTOGRAPH

On Building a Career

H. W. PRENTIS, JR.

Chairman of the Board, Armstrong Cork Company

ROUGH SEAS HOLD NO TERROR FOR THE CAPTAIN WITH A WELL-TRAINED AND LOYAL CREW. AND BUSINESS MEN, TOO, ARE FINDING THAT WELL-TRAINED AND LOYAL CREWS ARE ESSENTIAL IN RUNNING A BUSINESS. MUCH HAS BEEN SAID ABOUT TRAINING EMPLOYEES, BUT HOW CAN LOYALTY BE TAUGHT? HOW CAN BUSINESS MEN DEVELOP EMPLOYEE DEPENDABILITY?

NOT LONG ago, in a small Pennsylvania city, the career of a useful and respected citizen came to a close at a ripe old age. Actually, he had had not one career, but three. He began his active life as a teacher and rose to be principal of a school. Then engineering beckoned him, he returned to college, won his engineering degree, and practised that profession for a few years. Still unsatisfied, he returned to college once more at an age when most men no longer seek new horizons, earned his medical degree, and practised medicine successfully for the remainder of his long life.

This is a vestigial example of a varied kind of life that once was not uncommon in America. Men in the pioneer period became of necessity jacks-of-all-trades. The borders of various crafts, callings, and professions were not too precisely defined, nor were they guarded by a multiplicity of union rules, laws, licensing boards, and other government agencies, so that it was relatively easy for competent, ambitious men to cross over them progressively.

A man farmed a few years, then opened a store, began to read law when customers were scarce, went on to become a lawyer and a judge. Or another one started as a surveyor, became an authority on land titles, and wound up operating mines and foundries. Such biographies are woven into the national legend.

To-day, careers on this variegated pattern are scarcely possible. With our enormously expanded body of knowledge, higher professional standards, and increased specialization, one lifetime now seems too short for mastering the growing complexities of any one profession, let alone several.

And among the professions I em-

phatically include business. The concept of business as a career is now generally accepted and the career man in business expects to spend his lifetime in that profession just as surely as the physician, the lawyer, the teacher, or the architect anticipates finding his future in the honorable practise of his calling.

A natural and probably inevitable corrollary to the modern idea of business as a career is the trend toward less mobility to-day than a few years ago. Increasingly typical, I believe, is the case of the business leader who has spent his entire business life in one organization.

Certainly, more and more of America's business and industrial organizations are infusing new blood into their system on the planned assumption that the relationship will be permanent. They send their representatives to the nation's college campuses, not to hire young graduates for jobs, but rather to induct them into lifetime careers with the company; and young men are planning their lives accordingly.

Unquestionably there are some disadvantages and even dangers in a career policy, but in my judgment it is the best and the soundest one, in the long run, for keeping a company stable and strong and at the same time progressive and resourceful.

Obviously and fundamentally, a career company avoids the costly inefficiencies of high turnover. Men growing up in a career organization learn to know their associates well and to work together smoothly. They develop a team spirit and a sense of stewardship for the success of the enterprise as a whole. These are potent characteristics which may well spell the difference between the success of an enterprise or stagnation and failure.

On the other hand, the career company must guard against possible tendencies toward complacency, traditionalism, and "in-grown thinking." Frank recognition of the existence of these perils will of itself do much to counteract them; and they can be further obviated by encouraging executives to take full advantage of opportunities for outside contacts by participation in civic projects, in trade and professional associations, and the like.

Recognition as a career company is not something that can be achieved overnight by fiat or a mere "change in policy." The career idea presupposes the long-term view in all organizational policies. Once implanted and rooted, the idea must be constantly nurtured and supported by top management until it grows into a tradition that permeates the very atmosphere and corporate personality of the organization.

In my own company, which I have had the honor to serve for 45 years, the beginnings of a career philosophy may be traced in the attitude of Thomas Morton Armstrong who, with a partner, founded in 1860 the tiny corks-cutting business which later developed into the Armstrong Cork Company Mr. Armstrong believed in management from the bottom up as well as from the top down; he sought to uncover ability at every level of his growing organization. He knew that, vital as is capital to the success of any business undertaking, brains and character are even more essential.

In line with these early traditions, our company, shortly after the turn of the century, became, I believe, one of the first American corporations to seek out able young men and women in its own factories and offices and others fresh from school and college, and put them through planned training programs to fit them for larger responsibilities in the future.

Through trial and error this plan has been improved and expanded into a formal, smoothly operating system which, for years, has provided the manpower needs of all divisions and departments of the company. Practically all of the company's present executive personnel came to the organization through this system.

Drawing upon our experience, I would say that there are three basic, practical requisites for a successful career system, once top management is wholeheartedly committed to it.

1. Candidates for employment must be screened and selected with extreme care;

2. There must be a well-organized program of thorough training;

3. The policy of promoting from within must be adhered to fairly rigidly.

While we insist on keeping the door of opportunity open for bright youngsters in our factories and offices who did not get to college, we find a growing majority of our career trainees in the graduating classes of the colleges and universities. Our general personnel department, in which the recruiting function for the entire company is centralized, keeps in close touch with the placement directors of upwards of a hundred leading educational institutions. Representatives of the personnel department make personal visits to

Continued on page 69

DEVANEY PHOTOGRAPH

Young hands are willing when guided by a feeling of responsibility and confidence in the tutor. The creation of an atmosphere in which these feelings can develop requires active planning and conscious effort. From this will come the stuff on which continued success is built.

USS UNITED STATES—MONKMEYER PHOTOGRAPH

Progress and Handicaps IN EUROPE—PART II

MARION B. FOLSOM

Treasurer, Eastman Kodak Company *

RECENT DEVELOPMENTS IN THE ECONOMIES OF WESTERN EUROPE WERE OBSERVED BY FOUR OFFICERS OF THE COMMITTEE FOR ECONOMIC DEVELOPMENT. THIS CONCLUDES A TWO-PART REPORT OF THEIR STUDY. THE FIRST PART APPEARED IN THE JANUARY 1953 NUMBER.

Belgium

In Belgium the primary problems appear to be the depressed condition of some industries and an extreme dependence upon foreign trade. Belgium's foreign trade amounts to about 40 per cent of her total national product, a higher percentage than for any other country visited.

Belgium has the best post-war record of internal stability in Western Europe. This has been achieved by conservative fiscal and monetary policies. During the entire post-war period, however, industrial investment has been relatively low and capacity has been underutilized. Unemployment has been growing in recent months; it is reported that the number of fully and partially unemployed workers is from 12 to 15 per cent of all insured workers.

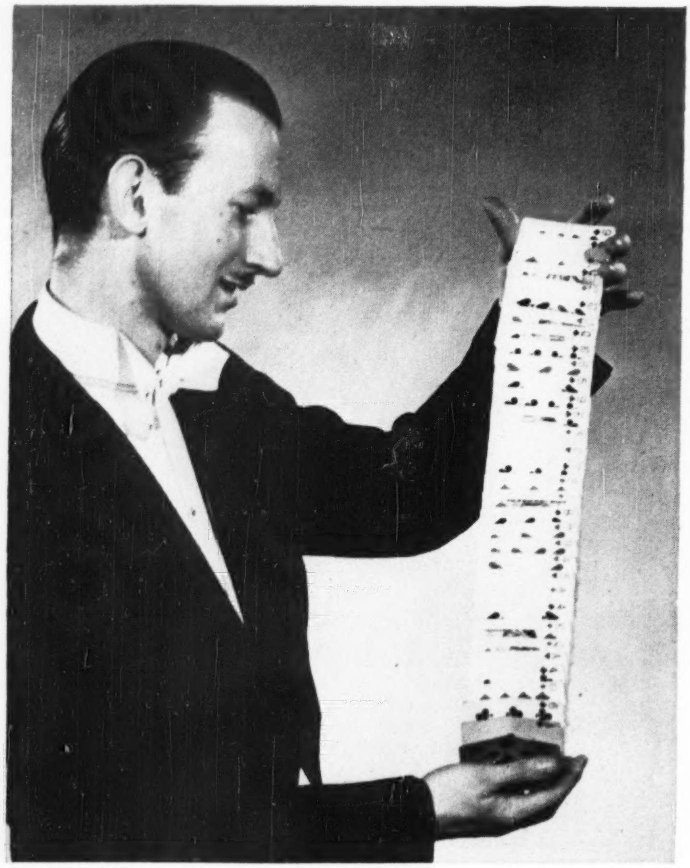
Belgium is facing some of the same long-term problems as England, due to the dislocation of the pre-war pattern of world trade. Some industries, especially textiles, are unable to find adequate markets and it is difficult to transfer workers from these depressed industries. Costs are generally high, due in part to the high social welfare costs that are involved.

Belgium consistently runs a trade deficit with the dollar area. She has been a consistent and heavy creditor with the EPU area since the war until very recently, when the import restrictions imposed by England and France severely reduced her exports to these areas. She, more than almost any other

Continued on page 76

GHENT, BELGIUM—GENDREAU PHOTOGRAPH

* Now serving as Under Secretary of the Treasury.



DEVANEY PHOTOGRAPH

No tricks, no fortune telling, no sleight of hand are needed in preparing for the problems that may mark 1953. A common sense approach toward those forces over which the business man appears to have no control can often uncover positive courses of action that lead to real benefits.

Forearmed for '53

GILBERT H. CLEE

Partner, McKinsey & Company

EVERYBODY HAS TROUBLES, BUT IT IS THE WISE MAN WHO OVERCOMES THEM. KNOWING WHAT THE PROBLEMS ARE AND WHAT CAN BE DONE ABOUT THEM IS THE BEST DEFENSE AGAINST ADVERSITY. HERE IS A BASIS FOR THAT DEFENSE.

IN EVERY informal gathering, business men debate the national developments that affect their companies' profits. What will the new administration do about taxes. Will wage rates continue to rise in the next few years. How will general business react to an easing of defense expenditures?

Back at their desks, faced with the day's operating decisions, these external factors become less immediate. The big problem seems to be to put their own houses in order rather than to worry about questions that may not have predictable answers. Furthermore, if the developments are outside a company's control, why lose sleep over them?

The fact that a company cannot modify an economic or social trend is hardly the issue. Although the trend may be inflexible, a company frequently can mold its operations to reduce the trend's impact, or can profit from it. It is worth while to check the weather forecast, for even if you can't prevent rain, you can carry an umbrella.

In practise, every company does make a number of adjustments to outside developments. For example, if competition develops an important product improvement, management will devote much effort to finding ways to protect the company's position. The real danger is that many companies remain unaware of the basic external forces affecting them; and their action, when it does come, is either too late or based on too superficial an understanding to be of real benefit.

In an effort to determine what types of outside problems companies are facing to-day and what ways are being found to meet them, the author, with two of his associates at McKinsey & Company, checked with a broad sample of economists and financial analysts. The survey included men in industry, associations, banks, and investment groups.

These authorities agree that the longer term profitability of any company depends as much on its ability to adjust to outside forces as on its ability to cope with internal problems. Yet management's job is not easy because there are no general procedures to follow. An outside trend that is critically important to one company may have little bearing on another.

Thus, there are three problems in this regard facing the executive. The problems he faces are:

1. What are the external forces affecting his business?
2. How are these forces likely to affect his company?
3. What can he do about them?

The sheer number and diversity of external factors pointed out by the analysts are startling. A few of them are these: Is present business activity above an average that can be sustained? Will new capacity in your industry intensify competition? Will Government controls be relaxed?

What will changes in living habits mean to the demand for your industry's products? Are shifts in sources of materials or in the location of customers

affecting costs at your present plant location? Will interest rates make borrowing more costly a few years from now? Is inflation likely to continue?

As an example of the practical planning benefits to be gained from close observation of an outside trend, let's take the affect on department stores of the much discussed rapid growth of the suburbs compared with the large cities. Noting this shift in markets, some department stores have hurried to set up branch outlets. However, good management looks well below the surface features of this trend in committing itself to heavy new investment. Who is going to the suburbs and why?

The movement to the suburbs results from a number of factors—better transportation, the desire for less congested living, more leisure time for enjoyment of a private home, and the higher incomes necessary to support home ownership. These factors frequently mean that the suburban store will be catering to an entirely different class of customers than the established city outlet.

Styles and price lines of merchandise must be matched to this market. More evening hours may be required because customers can reach the branch store after dinner—much less likely when a special trip to the city was involved. Delivery requirements will be lighter because customers drive their cars. Even window displays must be designed differently because they are not aimed at the heavy pedestrian traffic of the city.

Careful observation of the trends will also indicate that the city outlet needs to re-examine its own methods. With the shift of a certain class of customers to suburban shopping, the downtown store may no longer be serving the same market that it did.

A closely related trend is the gradual reduction in working hours and the length of the work week. The combination of higher incomes and greater leisure have brought forth new living habits and new market opportunities. Alert manufacturers have revised their product lines to match the pattern of these outside forces.

Even the seemingly unchanging field of men's wear has experienced a minor revolution. Informal clothing has found new popularity. Dress shirt production dropped nearly 50 per cent in the past five years while sports shirt output was jumping ahead. Large shirt companies have had to modify production and sales methods radically to cope with problems of style and less standardized production. Phillips-Jones reorganized one of its plants for shorter production lines to provide the flexibility necessary for quick changes.


"This is our vice-president in charge of long-range planning!"

Some companies have foreseen the emergence of a new market for "do-it-yourself" products that stems from a combination of leisure and the high cost of labor. Paint companies have stressed the simplicity of interior decoration to attract the amateur. Tinting pigments and color selection charts give the home owner a chance to satisfy his decorating ideas. Rubber base paints and paint rollers have been developed to simplify application.

In contrast, wallpaper companies have continued to stress distribution to the professionals, and the home handyman still looks on paper-hanging as an art beyond his capabilities. This probably explains at least part of the decline in the number of wallpaper rolls sold.

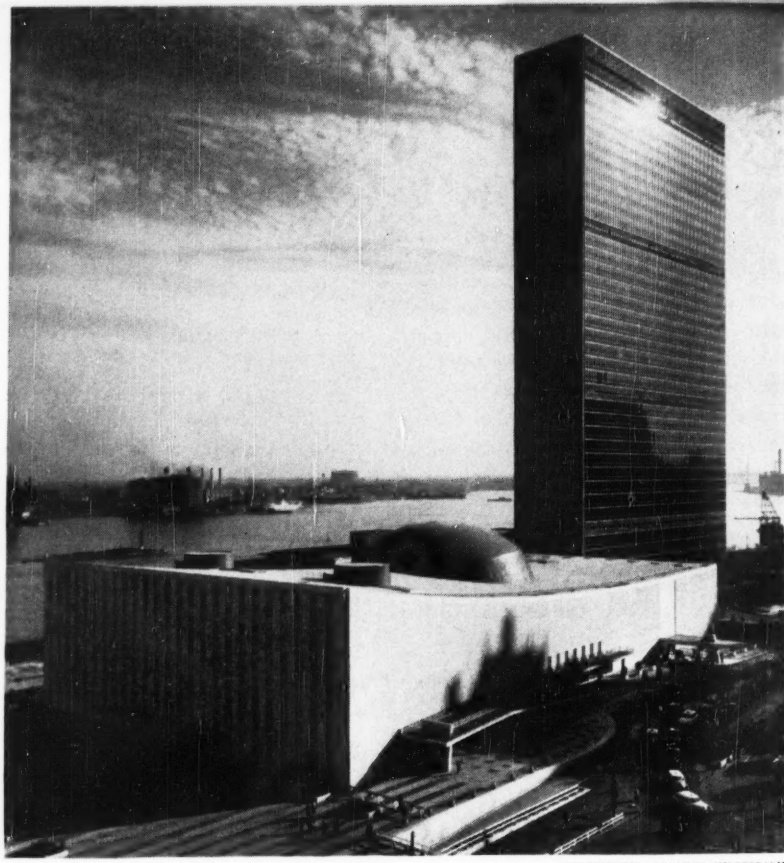
Successful manufacturers in many other fields have capitalized on this growing market of amateurs. Tool makers have found it worth while to design special models of power tools to meet the price and versatility requirements of the basement workshop. Gardening equipment and supplies are being promoted with an eye to the housewife as well as the regular gardener. Manufacturers of dress patterns and sewing aids have similarly taken advantage of the trend.

It is not surprising that sales plan-

B. ALTMAN, MANHASSET, L. I.—DEVANEY PHOTOGRAPH

The movement of people to the suburbs is a stream that can't be stemmed, but department stores have found a way to solve this external problem.

THE PROGRESS, PROBLEMS, THE SKILLS, AND THE NEEDS OF THE LESS FORTUNATE PEOPLE OF THE WORLD ARE DESCRIBED IN THIS AND IN THE MARCH ISSUES. THE FIGURES, WHILE NECESSARILY IMPERFECT IN SOME INSTANCES, ARE AMONG THE BEST SO FAR AVAILABLE. THE MATERIAL IS DRAWN LARGELY FROM A UNITED NATIONS SURVEY, "THE WORLD SOCIAL SITUATION."



UN BUILDING—DEVANEY PHOTOGRAPH

Behind the World's Windows

A. G. MEZERIK

UN Correspondent

EVERYONE speculates, at one time or another, on what future generations will remember about the Twentieth Century. Some say war and, unfortunately, there is proof that this is a century of war. More speak of this century as an age of technical invention—of contraction of our planet because of advances in transportation and communication. But there is another point of view which may be the one which will prevail in the ages to come.

This is also the century in which has emerged increasing recognition that 2,400 million people have somehow to contrive to live together. The general impoverishment of any area has begun to become a matter of concern to all areas. Those who, like many in America, have gone far in technical experience and acquired knowledge in industrialization, increasingly feel some responsibility for making what we know available to those communities that are less advanced and less well-equipped.

It is this development which has led a distinguished historian to suggest that, in the broad sweep, the Twentieth Century will be remembered in future centuries as the age in which human society dared to think of the welfare of the whole human race as a practicable objective. As this feeling of responsibility has grown, a need to know about how the world really lives has grown.

It has become important to learn about the private life of countries long remote from us—to get a clear picture of the world situation on population, on health, food and nutrition, housing, education and communication, conditions of work and employment, special problems effecting standards of living, and levels of income and welfare.

Because needs are greatest in those huge areas we call under-developed, the spotlight turns on them. There one can clearly see the great obstacles to progress—disease, ignorance, and poverty. There one can measure the action or lack of action against these age-old scourges.

Against disease the general advance has been substantial in recent years, and, in some of the less-developed areas, it has been dramatic, with death rates dropping as much as 50 per cent in a few years' time. Modern methods of hygiene and mass-disease control have moved into areas where malaria and gastro-intestinal disease had previously decimated and debilitated a high proportion of the population.

On some fronts we move more rapidly than we think. It was only after the war's end that the wonder drugs became widely available. Yet in the seven post-war years, mass campaigns for DDT spraying against malaria and for penicillin injections against diseases such as syphilis and yaws have achieved remarkable success.

A Simple Cure

Yaws afflicts so many tropical people that a map showing its incidence would mark most of the land between the Tropics of Cancer and Capricorn. Yaws is crippling, disfiguring, and debilitating. It strikes all ages. Yet yaws is cured easily by one, two, or at most three doses of penicillin. Mass treatment is cheap—two dollars per person cured.

Indonesia, where 300,000 were treated, shows how much of a transformation the expenditure of that two dollars makes. In contrast with yaws-afflicted villages, the houses are clean, the children well-cared for, and the crops and livestock have improved.

Because the people look better and feel better, farmers' clubs and extension courses have made headway. The peasants want to learn modern ways of producing better rice and developing better irrigation. In one district they are building a 60-mile canal to bring water to the hills. They are constructing this canal as volunteer labor, with no equipment except picks, spades, and baskets and their own new-found enthusiasm born of new-found health.

In Ceylon malaria was endemic in two-thirds of the island. For centuries malaria has been Ceylon's major cause of death and illness. In 1946 spraying with DDT was begun. By 1949 malaria mortality rate was reduced by 82.5 per cent. Three hundred million in the world know the horror of malaria. Ceylon is now clear of it as is Italy and Brazil. DDT did this and is attacking the dread disease in other parts of the world.

Those results, the cures, are direct. They can be counted. There are secondary consequences which cannot be measured, but which may be even more important. More children survive infancy to marry and multiply. Labor becomes more alert and efficient. Acres,

LIFE EXPECTANCY AT BIRTH

	1920 to 1930	1930 to 1940	1940 to 1950
AFRICA			
Egypt	33.5	38.6	
Mauritius			33.0
Union of South Africa			
Europeans	59.6	61.0	66.0
NORTH AMERICA			
Canada		61.1	67.1
United States			
White	59.2	62.6	68.7
Non-White	47.4	50.8	60.8
LATIN AMERICA			
Barbados			51.1
Brazil	37.4		
Chile		36.6	38.9
Colombia			46.3
Costa Rica	40.7		
Guatemala			36.5
Jamaica	37.0		52.9
Mexico		33.3	38.9
Panama			52.0
Peru		39.0	
Trinidad and Tobago	38.9	45.7	54.5
ASIA			
India	26.7		
Japan	45.7	48.3	57.9
Thailand		40.0	50.3
EUROPE			
Austria		56.5	
Belgium	57.9		64.7
Bulgaria	46.3		
Czechoslovakia		53.6	
Denmark	61.8	64.7	69.0
Finland	52.9	57.0	57.9
France	54.1	58.8	64.7
Germany			
Federal Republic	57.4	61.3	
Ireland	57.7	58.9	60.0
Italy	50.0	54.9	
Luxembourg			63.7
Malta			56.7
Netherlands	62.7	66.4	70.5
Norway	62.4		69.8
Poland		49.8	
Portugal			50.7
Spain		50.3	
Sweden	62.1	64.9	68.4
Switzerland	56.0	62.7	64.8
USSR (Europe)	44.4		
United Kingdom			
England and Wales	57.6	60.8	68.9
OCEANIA			
Australia	61.2	65.3	68.4
New Zealand	65.3	67.0	

It is difficult to compare countries with different customs, different standards, and different units of measure. One way to measure these variables is by the life expectancy of the inhabitants. Even in this measure there are differences in the time and manner of collecting the information so that the results are not always comparable. Data are from the UN "Preliminary Report on the World Social Situation."

long abandoned because of the malarial pest, are brought back into cultivation.

That mass diseases can be eradicated has been proved. But between proof and accomplishment lie serious obstacles. The world needs twice the present number of doctors—900,000—and it needs them not in the big cities but in rural areas.

Not Enough Doctors

Iraq, in 1945, with a population of over 4.5 million, had altogether 569 physicians. Three hundred and eight of these were concentrated in Baghdad with less than 10 per cent of the country's population. In Colombia, two-thirds of the doctors are in the cities where live 12 per cent of the people.

The need for doctors is great, but the need for nurses and auxiliary nurses is even greater. And the countries where they have least of the men and women in white cannot afford to develop the health services they want so much.

The health services of countries such as ours were built up over a long period. Development of institutions to guard health, hygiene, and sanitation grew slowly, always backed by progress in scientific research and integrated into a general pattern of increasing productivity and economic and social development. The under-developed countries must attempt to telescope into a few years the work of a century, if they are to interrupt the vicious circle where disease causes under-production, which is responsible for poverty, which makes a good health service impossible, and therefore guarantees more disease.

While the cost of stamping out the mass diseases is relatively very small—DDT spraying against malaria, for instance, can be carried out for between 15 and 50 cents a head—the cost of maintaining a full-scale health service is very high. In the United Kingdom the all-inclusive National Health Service costs something more than eight pounds sterling per capita.

However the health pattern in the under-developed countries is as yet quite different from that of highly developed countries. In a country such as ours, the problem is not of a mass disease, but of the more complex degenerative and stress diseases, such as can-

Continued on page 100

UNITED STATES PRODUCTIVE CAPACITY, 1830-1950

Jan. 1*	Cotton Spindles *millions*	Railroad Mileage *thousands*	Steel Ingot *million tons*	Pig Iron *million tons*	Bituminous Coal *million tons*	Electric Utilities *thousand kilowatts*	Aluminum Ingots *thousand tons*	Total Paper *million tons*	Portland Cement *million barrels*	Copper Refining *thousand tons*	Petroleum Refining *thousand barrels*
1830.......	1.2**	.0§	.0§§	...†	...	.....	...	...	....	....	....
1840.......	2.3	2.3	...	...	...	.....	...	...	....	....	....
1850.......	4.0	7.3	...	...	...	.....	...	...	....	....	....
1860.......	5.2	28.7	...	...	...	.....	...	...	....	....	....
1870.......	7.1	46.8	...	...	...	.....	...	...	....	....	....
1880.......	10.7	86.0	2.1	6.5	57	.....	...	...	....	....	....
1890.......	14.4	161.0	7.2	13.2	151	89	.2††	...	....	....	....
1900.......	19.5	193.0	21.2	27.8	281	894	...	2.8	....	....	....
1910.......	28.9	237.0	39.4	39.0	592	2,709	...	...	93.5	644	....
1920.......	35.8	253.0	62.3	56.2	798	13,094	76	7.7	134.1	1,384	559
1930.......	34.0	249.4	73.0	57.9	770	29,839	125	13.7	258.9	1,627	1,374
1940.......	24.8	235.0	81.6	55.7	703	38,863	245	16.6	253.8	1,572	1,687
1950.......	23.0	224.5	99.4	71.6	869	63,100	721	24.4	268.3	1,557	2,444
1952.......	23.2	223.0	108.6	73.8	810	75,544	871	25.4	274.5	1,599	2,677

* In some instances the figures quoted are a year or two from the indicated date.
** 1800: 2,000 spindles.
§ 1826: 3 miles. 1830: 23 miles.
§§ 1830: 1,600 tons.
† 1644: The blast furnace at Saugus, Mass., first permanent iron works in America, had a rated capacity of 465 tons of pig iron a year. It is now (1953) being restored and will be open to the public next year, showing how America has advanced industrially in 310 years.
†† 1890: 182 tons.

America's Industrial Inventory

JOHN A. WARING, JR.

WHAT PRODUCTIVE LEVELS CAN WE REACH IS ANSWERED BY THIS STATISTICAL TABULATION OF THE ANNUAL RATED CAPACITY OF MANY INDUSTRIES. FOR CONVENIENCE AND COMPARABILITY THE AUTHOR HAS REDUCED ALL TONNAGE FIGURES TO SHORT TONS (2,000 POUNDS) AND HAS EXPRESSED ALL OUTPUT FIGURES AT ANNUAL RATES UNLESS OTHERWISE INDICATED.

THE MOST important thing to keep in mind about the present vast installation of new industrial capacity, is that expansion is not a new phenomenon in American history. National 'growing pains' have always been with us, speeded up in prosperous times and temporarily slowed by depressions.

For the first one and one-quarter centuries, we devoted our energies—first the primitive energy of human toil, then steam powered—in a geographical expansion to get at and open up the land's resources, willy-nilly.

That had advantages. Our forefathers could avoid repeating last year's mistakes by moving westward and starting afresh, building anew. The long era during which we covered the breadth of the continent with railroad tracks, mines, farms, canals and locks, cities, and factories came to an end around 1919-1920.

Percentagewise, the current increases in industry capacity are far below some of the early expansion rates. From 1880 to 1890, for example, the nation's steel capacity jumped more than three and a half times. Then in the decade following 1890, total steel capacity increased another three times.

Soft coal capacity nearly tripled from 1880 to 1890, and reached 281 million tons a year in 1900. Ten years later *that* was better than doubled.

The Pearl St. Station, first steam-powered electric utility plant, opened in New York City on September 4, 1882, with a total capacity of 720 kilowatts. The first hydro-electric station opened at Appleton, Wis., five weeks later, with 30 kilowatts. In eight more years there was a total of nearly 90,000 kilowatt capacity in the country, and by 1900 this figure rose ten-fold.

Counting all of us, young and old, the average American is 31 years old. In these last 31 years, the total electric utility capacity has grown from 13½ million kilowatts of power to about 80 million kilowatts.

And it still is not enough. As this is being written, *Electrical World* reports that we are "losing about 1 million pounds of aluminum daily" at plants in the Pacific Northwest because of lowered production resulting from a dearth of storage water at the hydro-power stations plus the lack of any long-distance transmission-line interconnections to bring outside energy.

Samuel Slater, then 21, opened the first cotton textile mill in the United States using Arkwright's new spinning frame on December 20 in the year 1790 at Pawtucket, R. I. It had 72 spindles. Still operating some 40 years later, but with several thousand spindles, the Slater mill was inspected by President Andrew Jackson who visited Pawtucket during his first term of office ". . . calling at Slater's home to show his respect to the man whom he called 'The father of American manufacturers.'"

At the time President Jackson saw Slater's original machinery (which is

Continued on page 42

Figures for foundries and rayon are from *Foundry* and *Rayon Organon*.

America's Power to Produce

ANNUAL RATED CAPACITY

	1940	1951	1954
Fuels			
Coal (anthracite) *thousand tons*	84,000	62,300	
Coal (bituminous) *thousand tons*	703,000	810,000	
Coke Ovens *thousand tons*		84,060	97,859
Gas (natural at wells) *billion cubic feet per year*		9,547	11,358
Gas Liquids (natural at wells) *thousand barrels*		210,970	282,145
Gasoline, Catalytic (cracked) *thousand barrels*	381,800	726,987†	
Gasoline (natural) *thousand barrels*	100,000	231,000†	379,600
Lubricating Oil (refining) *thousand barrels*		64,809	
Manufactured Gas *billion cubic feet*		1,002**	
Petroleum (crude at wells) *million barrels*	1,716	2,455	2,867
Petroleum (crude refining) *million barrels*	1,687	2,542	2,977
Power Producing Machinery and Installed Power			
Condensers *thousand square feet of surface*		8,000	13,000
Hydroturbines *thousand horsepower*		3,000	4,000
Hydroturbine Generators *thousand kilowatts*	3,500	2,600	3,000
Steam Turbo-Generators *thousand kilowatts*		12,400	15,500
Transformers (power and distribution) *thousand kilovolt amps*		63,500	88,500
Tubular Heat Exchangers *thousand square feet of surface*		38,500	58,500
Electric Central Stations (public utility) *thousand kilowatts*	38,863	68,919	111,825††
Electric Stations (industrial) *thousand kilowatts*	10,575	13,931	16,080†
Metals			
Alumina *thousand tons*	420*	2,448	
Aluminum Ingot *thousand tons*	245	750	1,509
Aluminum Sheet, Plate, Foil *thousand tons*	414†	954*	1,296†
Antimony Metal Smelting *tons*		12,200†	
Beryllium Copper Alloy *tons*		1,800†	6,000†
Beryllium Copper Fabricating *tons*		3,090†	4,530†
Copper Refinery (electrolytic) *thousand tons*	1,572	1,560	

	1940	1951	1954
Copper Smelter *thousand tons*	10,772	9,748	
Ferro-Alloys (blast furnace) *thousand tons*	992	1,098	1,500
Lead Refinery *thousand tons*	1,168	866	
Magnesium Ingot *tons*	9,000†	138,500	
Pig Iron *thousand tons*	55,724	72,472	85,000
Steel Ingot *thousand tons*	81,620	104,230	120,300
Steel Bars (cold finished) *thousand tons*	1,722**	2,968	
Steel Bars (concrete reinforcing and others) *thousand tons*	12,081**	13,593	
Steel Bolts, Nuts, Rivets *thousand tons*	830**	349	
Steel Castings *thousand tons*		2,500*	3,000
Steel Rails *thousand tons*	3,352**	2,707	
Steel Sheets (cold-rolled) *thousand tons*	5,760**	11,498	
Steel Sheets (galvanized) *thousand tons*	2,282**	3,183	
Steel Sheets (hot-rolled) *thousand tons*	12,267**	24,890	
Steel Strip (cold-rolled) *thousand tons*	1,610**	2,826	
Steel Strip (hot-rolled) *thousand tons*	4,799**	4,908	
Steel Structural Shapes *thousand tons*	5,670**	6,768	
Steel Wire (and products) *thousand tons*	7,872**	10,789	
Tin Smelting *tons*		53,300†	
Tinplate (electrolytic) *thousand tons*	0**	3,253	4,100
Tinplate (hot-dipped) *thousand tons*	4,089**	3,201	
Titanium *tons*		600	7,717*
Zinc Refinery *thousand tons*	223	373	
Metal Products			
Automotive Vehicles *thousand units (demonstrated capability)*	8,352	10,354*	
Compressed Gas Cylinders *tons*		260,000	300,000††
Diesel Engines *thousand horsepower*		40,000†	
Diesel Locomotives (industry) *units*		700†	
Diesel Locomotives (railroad) *units*		4,300†	
Freight Cars *units*		150,000†	

* One year earlier. † One year later. ** Two years earlier. †† Two years later.

America's Power to Produce

ANNUAL RATED CAPACITY

	1940	1951	1954
Machine Tools *units (demonstrated capability)*		219,000†	......
Power Cranes and Shovels *units*	......	14,500	24,000
Steel Containers (heavy drums) *thousand units*	35,000	52,500†	......
Steel Containers (light drums) *thousand units*	10,000	15,000†	......
Steel Containers (pails) *thousand units*	75,000	110,000†	......

Plastic Manufacturing

	1940	1951	1954
Compression Machines *total in use*		3,700†	......
Extrusion Machines *total in use*		2,660†	......
Intrusion Machines *total in use*	1,000*	5,035†	......

Building Materials, Paper, and Wood

	1940	1951	1954
Cement, Portland *thousand barrels*	253,759	268,273	......
Newsprint *thousand tons*	1,075	1,033	1,300††
Paper (except newsprint) *thousand tons*	7,951	11,530	12,783††
Paperboard *thousand tons*	7,531	11,918	13,668††
Plywood (⅜ inch, 3-ply) *million square feet*		4,577†	......
Prefabricated Houses *units*		92,880*	......
Pulpwood *thousand tons*	10,421	17,124	20,874
Shingles (red cedar) *100 thousand square feet roof surface*	6,019	3,237†	......
Wallboard (insulating) *million square feet*	1,000	2,275	......
Wooden Roof Trusses *million board feet*		400	......

Food and Agriculture

	1940	1951	1954
Corn Pickers *machines on farms*	110,000	522,000	......
Fisheries (including Alaska) *motor boats and vessels*	37,312*	58,500	......
Flour Milling *million 100-lb. sacks*	443	394	......
Grain Combines *machines on farms*	190,000	810,000	......
Ice Cream Freezing *million quarts*		17,000	......
Meat Packing *thousand tons*		11,862†	......
Motor Trucks *thousand machines on farms*	1,047	2,310	......

	1940	1951	1954
Sugar Refining, Cane *thousand tons*	8,043**	8,802†	......
Tractors *thousand machines on farms*	1,567	3,940	......

Textiles and Products

	1940	1951	1954
Carpet and Rug Looms *units in place*	9,943	4,878	......
Cotton Ginning *thousand bales per day*	1,043	744	......
Cotton Looms§ *units in place*	498,381	395,753†	......
Cotton Spindles *thousand units in place*	24,750	23,149	......
Men's Suits *thousand units*		27,300†	......
Rayon *thousand tons*	270	740†	857*
Rayon, Synthetic Silk Looms *thousand units in place*	108,388	117,965	......
Shoes, Leather (all types) *thousand pairs*		700,000†	......
Synthetic Fibers (such as nylon, Dynel, etc.) *thousand tons*		158†	217*
Women's Hosiery (full-fashioned) *million pairs*		1,030†	......
Woolen Spindles *thousand units in place*	1,777	1,328	......
Woolen and Worsted Looms *units in place*	47,800	35,934	......
Worsted Combs *units in place*	2,592	2,750	......
Worsted Spindles *thousand units in place*	2,083	1,813	......

Chemicals

	1940	1951	1954
Acrylate Monomer (plastics) *tons*		25,000	50,000
Aniline (dye) *units*		53,200	67,500
Benzene (industrial) *million gallons*		215	375†
Butadiene (plastics) *tons*		30,500	81,000†
Calcium Carbide *thousand tons*		780	1,230
Carbon Black *tons*	312,800	942,300†	......
Chlorine (industrial) *thousand tons*	767	2,200*	3,430†
Cyclohexane *tons*		58,500	118,500†
DDT (insecticide) *tons*		51,000	77,500†

Continued on page 49

* One year earlier. † One year later. ** Two years earlier. †† Two years later. § Data from *Davison's Textile Blue Book*.

(Continued from page 38)

still in existence, incidentally, and on exhibit at the Smithsonian Institution) the number of cotton mills had risen to 801, with 1,240,000 spindles.

To-day, twelve decades later, we have half that number of spindles in one mill alone—Spring Mills in South Carolina.

The expansion of industrial capacity now going on, while lower than the percentage increases of a century ago, is like nothing else ever seen.

The size of the new installations and equipment we are putting up *annually*, in some industries, is equal to the nation's total capacity extant only three or four generations ago!

New Kinds of Machines

In contrast to the cumbersome, slow hand-tool production prevailing throughout this nation's first 130 years, the equipment being installed to-day tends to be automatic, with electric motors and electronic tubes (next: transistors). To-day's technology takes less floor space per unit of output and fewer man-hours *per unit* of production, but has a higher rated capacity because the latest machinery operates faster and more efficiently than the old it replaces. By 'old' is meant pre-1947 or so, to say nothing of older equipment.

In 1802 at what is the Scovill Manufacturing works in Waterbury, Conn., they were melting and casting brass bars at the rate of 5 to 10 lbs. per hour with the best equipment then available. To-day, one and one-half centuries later at its Waterbury plant, Scovill's new continuous casting machine produces brass bars at 30,000 lbs. an hour.

An increasing proportion of the raw materials are mechanically made or synthetically derived, such as rayon, nylon, synthetic rubber, synthetic nitrogen, artificial graphite and cryolite, synthetic wools, petrochemicals, and so on in place of the bulky and heavy products which formerly had to be laboriously extracted from the earth.

In this connection, more and more production operations are with light metals—aluminum, magnesium, and titanium—than were formerly worked. The more synthetic materials and the more light-weight materials we use, the less time is required in production, as well as greater precision and mass pro-

duction. This, too, adds to industry's capacity to produce per year or per day.

One underlying development that is becoming more obvious is the "self-accelerating" effects of modern technology.

In the first direction is the rising demand from consumers and other users (defense and exports) for higher capacity in the industries producing finished products. To provide this requires more machinery, which in turn diffuses added demands for more transportation rolling stock, more ore mining equipment, and so on.

Bigger and Better

All of this requires more electricity, which in turn calls for more coal to be mined, more oil and natural gas pumped, and more hydropower sites developed. These things compound the need for machinery.

The second direction this process takes is that all the new technology thus installed in the power stations, the mines, the train-truck-barge systems, the metal refineries and mills, the machinery factories, and finally in the finished-products plants, must be more modern, more productive, more automatic, than the equipment already in operation.

Competitive advantage, cost reduction, rising wages and taxes: these are the major incentives. But the effect is the same regardless of the industry; to-day's machines cost more, much more, but the faster output is worth it.

One of the basic causes for the shortages during 1950 and part of 1951 was that during that period industry was using up materials for its own expansion. That stage has now been passed, and although the expansion is still under way, the plants and new technology installed in 1950 and 1951, as well as 1952, are now contributing to the supply of raw materials and finished products.

To add 10 million tons to the nation's steel ingot capacity, for instance, requires approximately 3 million tons of steel for the construction of new facilities at iron ore mines, ore vessels, coal mines, coke ovens, and blast furnaces, as well as erecting the new steel mills and rolling mills themselves.

In order to produce one pound of aluminum ingot, between nine and

twelve pounds of raw materials plus eight to ten kilowatt-hours of electricity are consumed at the reduction plant. Thus, the expansion of annual capacity from 721,000 tons three years ago, to 1,509,000 tons a year from now, indicates a vast amount of planning for facilities to provide more materials and more electric power for the potlines coming on line in the near future.

It is estimated that the electric utility generating and distributing equipment installed throughout the country from 1951 through 1953 is taking about 2.5 per cent of the steel, 6 per cent of the aluminum, and 17 per cent of the copper supplies.

For More Oil

Or take petroleum. As rising transportation, fuel, and chemical capacities call for more petroleum, the demand for fuel oil, lubricating oil, and gasoline goes well over the present daily throughput. For every per cent increase in total petroleum product demand over the stills' capabilities, an increase of 73,000 barrels *per day* in refinery capacity is required, nationally.

In building this new refinery capacity, plus the oil and gas producing equipment (field wells), pipelines and tankers, storage and distributing facilities, the petroleum industry is taking upwards of 10 per cent of the total steel supply during 1951-1953.

It will be noted that not all industries have increased their total capacity. For some, this is due to slackening demand. For still other cases, the long-term decline in the physical equipment is probably due more to the fact that greater efficiency is being obtained from the same or less equipment. In cotton mills, only .035 of a pound of cotton was consumed per spindle-hour back in 1930, whereas in 1950 the average spindle-hour productivity was .040. Similar trends are evident in wool mills.

While not declining, the number of machine tools in place in metalworking plants of manufacturing industries increased very little—only 3 per cent between 1945 and the *American Machinist's* mid-1949 survey. However, the tools brought out in recent years (especially since the 1947 Machine Tool Show in Chicago) are rated 40 per cent more productive per machine, on the

average, than pre-war machines. Thus with the same number of newer-model machine tools as he had of old, obsolete equipment which has been junked or sold, a manufacturer can now get around 40 per cent more production for a positive increase in capacity.

Twelve years ago, for example, there were no automatic lathes that could stop and start ten times a minute, and run at 2,500 rpm in each of its 6-second cycles; during which short time "an aluminum piston is rough-turned, rough faced, and the head milled at the same time." But there are now.

A Real Steel Shortage

In 1830, when 70 per cent of our working force was then toiling in the fields and a formed piece of iron (not steel) was a prized tool, our total rated steel capacity amounted to 1,600 tons per year, or 4 ounces per capita per year.

The rated steel capacity at the end of World War II reached 1,368 pounds per capita, then declined somewhat as population zoomed during these post-war years although steel expansion continued upward. A year ago it was up to 1,383 pounds, and will be over 1,400 pounds for every man, woman, and child in the country this year.

Our steel capacity a year ago had already exceeded the amount considered as recently as April and October, 1950, by two experts (James Boyd, director, U. S. Bureau of Mines, and Earl C. Smith, chief metallurgist, Republic Steel Corporation) as expected for the year 1959. And early this year we will have reached the capacity which they expected to be attained by 1965, or 118 million tons. The most they envisioned was 125 million tons capacity in 1970.

Now the *American Machinist,* in its 75th Anniversary Review edition (Nov. 15, 1952, asserts that by 1970 we will be needing a 145 million-ton capacity.

The railroads of the nation are laying plans (and tracks--the heavier and continuous-rail types mostly) to be ready

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America's Power to Produce

ANNUAL RATED CAPACITY

(Continued from page 40)

	1940	1951	1954
Ethyl Alcohol (industrial) *million gallons*		398	490†
Explosives (permissible and high) *tons*	311,385	412,500	
Explosives (black powder) *tons*	82,425	25,725	
Formaldehyde (industrial) *tons*	95,000*	662,500	837,500†
Glycerine (industrial) *tons*		112,500	139,000†
Hydrofluoric Acid (industrial) *tons*		47,000	65,000†
Maleic Anhydride (industrial) *tons*	2,100*	13,500	24,500†
Methanol (industrial) *million gallons*	74*	174	226†
Naphthalene (industrial) *tons*		175,500*	277,500
Nitrogen, Synthetic (fertilizer) *thousand tons*	625	1,639	2,256
Phenol (plastics) *tons*	45,000*	121,500	311,500
Phthalic Anhydride (industrial *tons*	31,800*	113,850	183,800†
Phosphorus, Elemental (industrial) *thousand tons*		161	274†
Potash (fertilizer) *thousand tons*		1,575	2,000
Sodium Chlorate (industrial) *tons*		34,000	72,500†
Styrene Monomer (plastics) *tons*		313,000	605,000
Sulphuric Acid *thousand tons*		13,000*	
Superphosphate, Normal (fertilizer) *thousand tons*	8,429†	16,538	
Synthetic Rubber *thousand tons*	11*	1,002	
Titanium Dioxide (dye) *tons*		282,000	370,000
Trichlorethylene (solvent) *tons*		138,500	200,000†
Vinyl Acetate (plastics) *tons*		25,000	37,500†

Communication and Transportation

	1940	1951	1954
Air Freight Capacity *tons*	154*	1,455*	
Freight Car Carrying Capacity *thousand tons*	82,002	90,465	
Gas (pipelines) *miles*	282,300	387,470	
Locomotive Tractive Effort *thousand tons*	1,060	1,159	
Newspaper Printing Presses *units*		7,320†	
Petroleum (pipelines) *miles*	122,500	162,151†	170,000†
Petroleum (storage capacity) *million barrels*		959†	1,130*
Radio Receiving Sets (in use) *million sets*	45	90	
Radio Receiving Sets (manufacturing) *million units*	12	55	
Radio Stations (AM and FM) *units*	814	3,369†	
Ship Cargo Capacity (Great Lakes) *thousand tons*		4,149	
Ship Cargo Capacity (inland waterways) *thousand tons*		6,240	
Ship Cargo Capacity (ocean-going) *thousand tons*		21,447	
Storage and Warehouse (except refrigerated) *thousand square feet area*	136,443†	130,043	
Storage and Warehouse (refrigerated) *thousand cubic feet volume*		613,000	
Telephones in Use *thousand units*	20,831	43,004	
Television Receivers (in use) *thousand sets*		12,500	15,000**
Television Receivers (manufacturing) *thousand sets*		10,440	
Television Stations *units*		51**	107**
Trucks (except on farms) *thousand units*	3,360	6,328	

Miscellaneous

	1940	1951	1954
Acetate Tape *thousand square yards*		5,750	16,000†
Cigarettes *billion units*		1,080	
Fiber Glas(s) *tons*		12,400	52,350†
Filament Tape *thousand square yards*		1,250	20,000†
Glass Containers *million units*	10,973*	20,304	
Optical Glass *tons*		2,075	3,000†
Penicillin *trillion Oxford units*		250	600†
Rubber Tires *million casings*		108†	
Technicolor Film *million feet*		400	600
Vulcanized Fiber *tons*		30,000	35,000

END OF TABLE

* One year earlier † One year later ** Two years earlier. †† Two years later.

to haul the goods that more electricity and more steel will produce.

Compared with the 14,057 diesel-electric locomotive units available at the start of 1951, and the 19,138 a year ago, there will be 28,086 in use as of January 1, 1954, less than a year from now. Steam engines will drop from the 25,215 on the lines two years ago and the 21,200 a year ago, to only 9,100 next year.

More Power per Unit

Despite this change in motive power, the aggregate tractive effort of all locomotives will remain about the same as it was before. The average diesel-electric unit replaces steam locomotives at an average ratio of 1 horsepower of Diesel to 2.5 horsepower of steam (including switchers).

The rise in freight cars (on Class I roads) from 1,744,625 in 1951, to 1,867,-353 a year hence, conceals the fact that the combined increment of freight-carrying capacity will be considerably higher, as the new cars have much more capacity than the old ones.

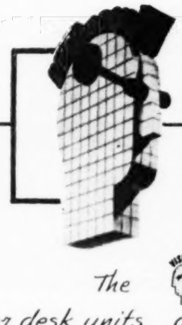
The Diesel engines are built of steel, but they require oil to operate. How high is our petroleum capacity expected to go?

The latest estimates of future crude petroleum capacity for the country, made by John E. Swearingen, general manager of production, Standard Oil Company (Indiana) for the annual American Petroleum Institute meeting last November, bring the refinery capacity as of 1967 to 3,540 million barrels annually as compared with the 2,677 million barrels capacity we had on stream as of the first of 1952.

The installed capacities of individual companies and plants in various industries serve to exemplify America's great ability to produce.

The Plymouth motor car plant of Chrysler, Detroit, has the largest assembly line in the world: at full capacity it can turn out three cars a minute. In its new 100,000 square-foot single-floor air-conditioned plant in Philadelphia, Nannette Mfg. Co. has a "potential" for cutting 6,000 dozen young children's dresses weekly.

Pusey & Jones Corporation last year completed a set of new paper-making machines, *each* of which is able to turn out paper 242 inches wide at a



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simplifies the operator's job and makes for pleasant working conditions. Its economy is well proven by testimonials of thousands of satisfied users, including Federal, State, & Municipal Governments as well as the country's leading businesses and industries. Installations on voluminous active records have usually resulted in actual clerical savings of from 40 to 60%, concurrent with improved controls and increased profits. Perhaps the most significant testimonial is the number of different key records that the average large user has switched to - many use for 20 to 40 different major record-keeping applications

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rate of 2,000 feet per minute—that is 200,000 miles a year of one-foot-wide paper, or to figure it another way, 9 square feet of paper annually for every man, woman, and child on earth. Only a small crew of technicians is needed to press the right buttons in the right sequence to start the giant machine. That's not manufacture, it is *technofacture!*

More Possibilities

Western Electric's new plant at Indianapolis, with a connected load of 25,000 kilowatts, can turn out at least 3 million complete telephones a year. There are 600 printing presses of all types in the main Philadelphia plant of the Curtis Publishing Company; in another, newer Curtis plant there are eight four-color presses each of which can print nearly 1 million pages an hour. The Philco Corporation's plants can produce 35,000 television receiving sets a week. The Alpena, Mich., plant of the Huron Portland Cement Company, the world's largest cement mill, has a peak productive capacity in excess of 20,000 barrels of cement per day (an average five or six room house built of concrete takes about 100 barrels of cement).

At the A. O. Smith Company plant at Kankakee, Ill., "gas water heater tanks come off the production line at the rate of four a minute." The world's largest beef packing plant, Armour's in Chicago, can dress down 220 animals an hour. One new plant alone, Chas. Pzifer & Company, Inc., at Groton, Conn., is capable of supplying 50 per cent of the needs of the entire U. S. civilian and military market for synthetic Vitamin A.

The Weyerhaeuser Timber Company's lumber mills at Longview, Wash., have a saw-mill capacity of 1 million board-feet every eight hours (if used entirely for home construction, this amount could build 121 five-room houses). At General Electric's new Appliance Park plant near Louisville, Ky., where electric dishwashers, room coolers, automatic clothes washers and dryers, and other home equipment will be turned out, there is "the capacity to produce one major appliance every 4.5 seconds. A major appliance is one you can't carry out of the store."

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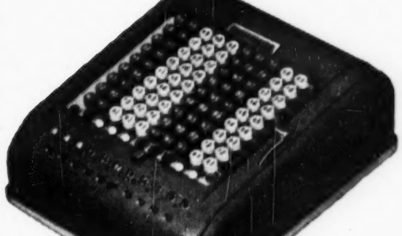

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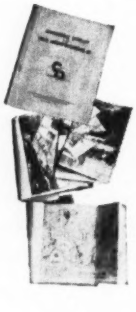

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THE TREND OF BUSINESS

LOADING RESIN INTO A TANK CAR AT THE REICHHOLD CHEMICAL PLANT IN DETROIT

PRODUCTION
PRICES . . . .
TRADE . . . .
FINANCE . . .

While the seasonal slackness in construction and agriculture reduced the employment total in December and early January, a high level of consumer buying continued to be supported by near-record incomes and strong reliance on consumer credit. Industrial production was sustained at a high rate in both defense and non-defense lines.

THE USUAL let-down after the Winter holidays was hardly discernible in the production figures for late December and early January. The output of steel, electric power, petroleum, and automobiles was noticeably above a year ago.

Reduced shipments of coal were believed partly responsible for the December dip in freight carloadings; weekly coal output ran consistently below the year-ago comparative in the last three months of 1952. Production at the average coal mine in December was scheduled at about 5 per cent below the November level and 12 per cent below that in December 1951.

Operating at a near-record rate in December, the steel mills manufactured 6 per cent more tons of ingots than they did a year previously. Automobiles rolled off the assembly lines at the average rate of over 120,000 vehicles a week in December. Largely because of model changeovers, there were 8 per cent fewer cars and trucks produced than in November, but 26 per cent more than a year ago.

The production of plate and sheet glass continued to be stimulated by the increased use of glass in many of the newer car models, as well as the larger glass areas designed for homes and industrial buildings.

The weekly level of electric power production in December averaged close to 8 per cent above a year previously. Daily average crude oil output was up 6 per cent. High activity at the factories producing shoes, paper, and rubber products was sustained. Producers of industrial chemicals operated at, or near, record levels.

Housing starts remained close to a seasonally adjusted annual rate of 1 million units. Responding to consumers' needs for home furnishings, the output of appliances and furniture rose noticeably.

Spending for new construction continued the downward movement started in September. Declining less than is customary at this time of year, construction outlays in December totalled $2.5 billion, some 6 per cent above a year ago. Construction volume for 1952 as a whole, at $32.3 billion, was 5 per cent above that in 1951.

Employment

With the post-holiday lull in trade and the further curtailment of outdoor activity, employment dipped slightly in early January.

The usual decline in the need for agricultural and construction workers

in December was partly offset by increased employment in manufacturing and trade. At 61.5 million, the total number of employed persons was 1 per cent below the November level and 1 per cent above a year ago.

Unemployment remained at a very low level, almost unchanged from the previous month, and close to the postwar low in October. There were 18 per cent fewer persons unemployed this December than in the comparable month in 1951. Only about 2.2 per cent of all civilian workers were looking for jobs in December, compared with 2.7 per cent a year ago.

Income At an annual rate of $267.4 billion, personal income in the first eleven months of 1952 was at the highest rate in history, 5.5 per cent above that in the comparable period of 1951.

For November, personal income was at an annual rate of $276 billion, unchanged from a month ago. A decline in farm income offset an advance in nonfarm payrolls. Most of the rise in manufacturing payrolls took place in the durable goods industries.

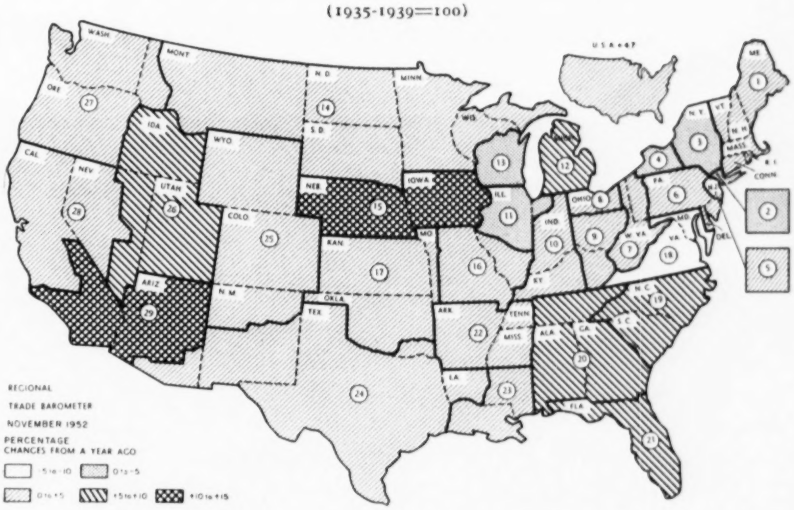
Although agricultural income was down almost 4 per cent in November to an annual rate of $20 billion, farm income for the first eleven months of 1952 was virtually unchanged from the 1951 comparative. While the farmers marketed a larger volume of crops and livestock in 1952 than in 1951, net income was restricted by declines in prices and a rise in production costs.

The average number of hours worked each week in November dipped slightly from a month ago because of a shorter work week at durable goods factories. Although hourly wage rates in both durable and nondurable manufacturing continued to rise, the reduced working time in durable goods cut into the average weekly earnings.

Two exceptions to the upward trend in hourly wage rates were in the industries producing apparel and other finished textile products, and lumber and wood products, where hourly wage rates dipped for the second consecutive month. They remained noticeably above a year ago, however.

Regional Trade Activity

(1935-1939=100)



REGION: (1935-1939=100)	Nov. 1952	% Change from Nov. 1951	% Change from Oct. 1952
United States	351.5	+ 4.7	+ 3.0
1. New England	249.4	+ 1.6	+ 2.1
2. New York City	251.9	— 3.7	— 1.3
3. Albany, Utica, and Syracuse	345.1	— 0.4	— 0.4
4. Buffalo and Rochester	335.8	— 0.0	+ 5.5
5. Northern New Jersey	262.7	+ 0.6	+ 4.8
6. Philadelphia	317.3	+ 2.2	+ 5.4
7. Pittsburgh	355.0	+ 1.4	+ 3.3
8. Cleveland	410.8	+ 2.4	+ 9.9
9. Cincinnati and Columbus	355.7	+ 4.9	— 0.5
10. Indianapolis and Louisville	412.6	+ 4.9	+ 1.0
11. Chicago	289.1	— 1.2	— 5.6
12. Detroit	373.4	+ 8.6	— 3.5
13. Milwaukee	370.4	— 0.3	+ 1.0
14. Minneapolis and St. Paul	346.6	+ 0.4	— 2.5
15. Iowa and Nebraska	369.0	+12.3	+11.1
16. St. Louis	318.5	+ 2.4	— 4.5
17. Kansas City	393.3	+ 4.5	+ 0.3
18. Maryland and Virginia	351.1	— 7.6	+ 1.2
19. North and South Carolina	409.5	+ 9.5	+ 7.9
20. Atlanta and Birmingham	482.9	+ 9.1	+ 1.3
21. Florida	461.0	+ 8.0	+ 8.8
22. Memphis	360.5	+ 0.3	— 6.3
23. New Orleans	436.9	+ 2.7	— 0.3
24. Texas	480.7	+ 3.9	— 1.5
25. Denver	362.7	+ 3.0	+ 1.7
26. Salt Lake City	391.7	+ 7.3	+ 9.0
27. Portland and Seattle	410.2	+ 5.0	+13.1
28. San Francisco	363.9	+ 3.0	+ 3.4
29. Los Angeles	378.4	+11.4	— 2.1

Prices Spot commodity prices continued to fluctuate irregularly in December and early January. At 279.61 on January 20, the DUN & BRADSTREET Daily Wholesale Commodity Price Index was fractionally below a month ago and 9 per cent below a year ago. With the exception of corn, grain prices slipped somewhat in the face of large supplies and slow domestic and export buying.

Continued on page 60

Industrial Production

Seasonally Adjusted Index: 1935-1939=100; Federal Reserve Board

	1949	1950	1951	1952
January	191	183	221	221
February	189	180	221	222
March	184	187	222	221
April	179	190	[illegible]	216
May	174	195	222	[illegible]
June	169	199	221	[illegible]
July	[illegible]	[illegible]	212	193
August	170	209	217	214
September	174	211	219	226
October	166	216	218	229
November	173	215	219	233
December	179	218	218	234†

† Approximation; figure from quoted source not available.

Wholesale Commodity Prices

Index: 1947-1949=100; U. S. Bureau of Labor Statistics

	1949	1950	1951	1952
January	102.8	97.7	115.0	113.0
February	101.2	98.3	116.5	112.5
March	100.9	98.5	116.5	112.3
April	99.9	98.5	[illegible]	111.8
May	99.0	99.6	115.9	[illegible]
June	98.2	100.2	115.1	111.2
July	98.0	[illegible]	114.2	111.8
August	[illegible]	[illegible]	113.7	112.2
September	98.3	107.1	113.4	111.7
October	97.9	107.7	113.7	111.1
November	97.8	109.3	113.6	110.7
December	97.7	112.1	113.5	109.6†

† Approximation; figure from quoted source not available.

Employment

Millions of Persons: U. S. Bureau of the Census

	1949	1950	1951	1952
January	57.4	56.9	59.0	59.7
February	57.2	57.0	58.9	59.8
March	57.6	57.6	60.2	59.7
April	57.8	58.7	60.0	60.1
May	58.7	59.7	61.2	61.2
June	59.6	61.5	61.8	62.6
July	59.7	[illegible]	[illegible]	[illegible]
August	[illegible]	[illegible]	62.6	[illegible]
September	59.4	61.2	61.6	62.3
October	59.0	61.8	61.8	61.9
November	59.5	61.3	61.3	62.2
December	58.6	60.3	61.0	61.5

Includes all civilian workers.

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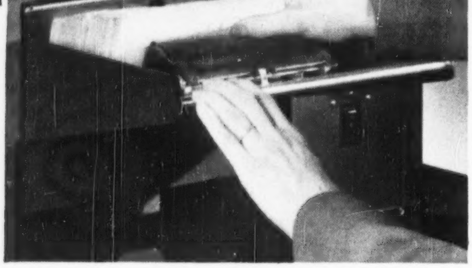

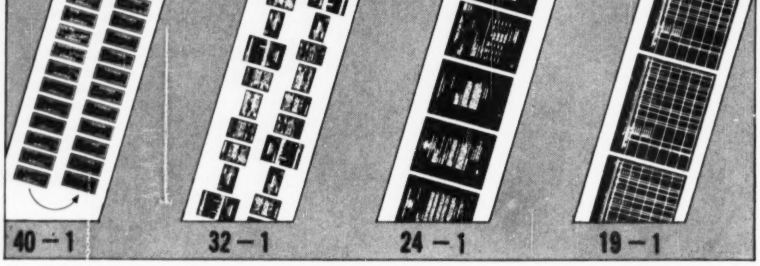

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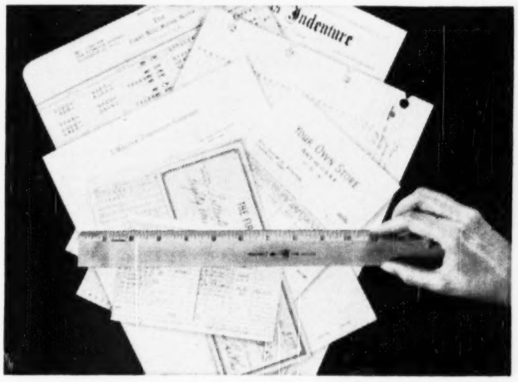

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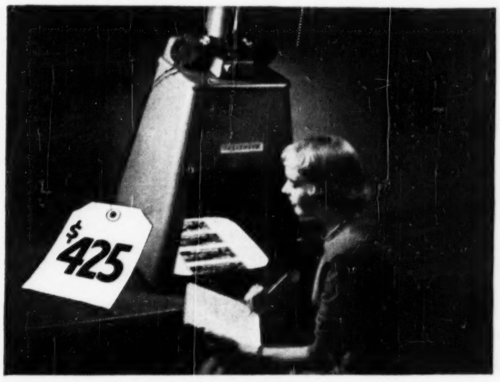

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THE TREND OF BUSINESS

The prices for farm products advanced fractionally, largely because of higher prices for fresh fruits and vegetables, hogs, lambs, and poultry. There were fractional gains in the prices for processed foods.

The Consumers' Price Index continued to inch upward in November; at 191.1 (1935-1939 = 100), the index was fractionally above the previous month's level and 1 per cent above a year ago. Published by the Bureau of Labor Statistics, the Consumers' Price Index measures the average changes in retail prices for goods, rents, and services purchased by moderate-income families in large cities.

While there were fractional declines in such important components of the index as food and clothing, the declines were more than offset by increased prices for the other components.

Trade The usual post-Christmas decline in consumer buying was noticeable in the early part of January. However, the total dollar value of retail trade remained above a year ago, exceeding last year's volume by an estimated 2 to 6 per cent. While the consumer response to post-holiday

Wholesale Food Price Index

The index is the sum total of the price per pound of 31 foods in general use. It is not a cost-of-living index.

Latest Weeks	Year Ago	1952
Jan. 13..**$6.25**	Jan. 15..$6.57	High Aug. 26..$6.70
Jan. 6.. 6.23	Jan. 8.. 6.61	Low Dec. 16.. 6.11
Dec. 30.. 6.16	Jan. 1.. 6.64	1951
Dec. 23.. 6.15	Dec. 25.. 6.64	High Feb. 20..$7.31
Dec. 16.. 6.11	Dec. 18.. 6.63	Low Dec. 18.. 6.63

Daily Wholesale Price Index

The index is prepared on the basis of daily spot closing prices of 30 primary commodities (1930-1932=100).

Week Ended:	Mon.	Tues.	Wed.	Thurs.	Fri.
Jan. 16	278.54	278.24	279.38	279.48	279.10
Jan. 9	281.80	280.90	281.06	280.91	279.87
Jan. 2	280.58	280.61	281.71	Holiday	282.08
Dec. 26	281.93	282.14	281.84	Holiday	280.85
Dec. 19	282.33	281.00	280.05	280.38	280.69

New Business Incorporations

Geographical Regions:	November 1952	November 1951	11 Months 1952	11 Months 1951
New England	405	431	5,317	4,972
Middle Atlantic	2,266	2,223	28,977	26,501
East North Central	1,089	975	13,411	12,701
West North Central	326	281	3,864	3,799
South Atlantic	997	959	12,406	11,212
East South Central	205	151	2,475	2,116
West South Central	419	390	5,564	4,581
Mountain	245	226	3,279	2,990
Pacific Coast	809	653	9,272	7,864
United States	6,761	6,289	84,565	76,736

THE TREND of BUSINESS

markdowns was enthusiastic, clearance sales were generally less common than a year ago when the end of the holiday shopping season left many retailers in a less favorable inventory position. It was thought that bargains might be less frequent than a year ago in the traditional January white sales. Exchanges of unwanted gifts were about at the usual level.

New Christmas sales records were attained by most retailers, although large-city department stores continued to have a less favorable year-to-year comparison than suburban stores and neighborhood shopping centers. While the attention of consumers centered on merchandise suitable as gifts, the pre-Christmas volume in major home appliances and furniture was often unusually high.

Consumers availed themselves of credit facilities to a greater extent in November. At $22.8 billion, consumer credit outstanding reached another all-time high, 2 per cent above a month ago, and 14 per cent above a year ago. Installment credit was up 20 per cent from a year ago, while charge account volume increased 4 per cent.

Wholesale trade recovered in the early weeks of January from the holiday lull. There were sizable bookings for Spring merchandise. Encouraged by the consumer response to holiday

Bank Clearings—Individual Cities
(Thousands of dollars)

	December 1952	December 1951	% Change
Boston	2,720,586	2,384,917	+14.1
Philadelphia	5,474,000	4,562,000	+20.0
Buffalo	533,985	450,366	+18.6
Pittsburgh	1,888,765	1,561,172	+21.0
Cleveland	2,152,013	1,817,899	+18.4
Cincinnati	1,110,549	906,923	+22.0
Baltimore	1,357,685	1,135,427	+19.6
Richmond	831,878	719,432	+15.6
Atlanta	1,520,900	1,357,500	+12.0
New Orleans	722,947	649,532	+11.3
Memphis	564,268	564,833	— 0.1
Chicago	4,351,857	3,712,037	+17.2
Detroit	2,792,452	2,171,314	+28.6
St. Louis	1,506,396	1,300,341	+15.8
Louisville	768,675	702,638	+ 9.4
Minneapolis	1,491,649	1,317,899	+13.2
Kansas City	1,681,601	1,572,904	+ 6.9
Omaha	699,350	696,930	+ 0.3
Denver	667,571	591,418	+12.9
Dallas	1,556,788	1,490,879	+ 4.4
Houston	1,423,974	1,314,131	+ 8.4
San Francisco	2,602,032	2,343,620	+11.0
Portland, Ore.	741,418	674,150	+10.0
Seattle	750,609	684,395	+ 9.7
Total 24 Cities	39,907,948	34,682,666	+15.1
New York	44,923,766	41,575,495	+ 8.1
Total 25 Cities	84,831,714	76,258,161	+11.2
Average Daily	3,262,758	3,050,326	+ 7.0

THE TREND OF BUSINESS

promotions, retailers generally were more willing to purchase beyond their immediate needs than they were a year ago.

Trading in the textile markets quickened noticeably; some trade observers thought that 1953 might prove to be the best year since 1947. Although buyer attendance at the various market exhibits for household goods set new records, volume was not expected to reach the high established two years ago when scare-buying was prevalent.

At $9.5 billion in November, wholesale volume was 12 per cent below the previous month's level and 4 per cent below a year ago. Contrastingly, wholesalers' inventories in November were almost unchanged from the previous month and were fractionally below a year ago. Wholesale inventories of durable goods increased slightly during the month, while those for non-durables dipped fractionally.

Barometers Consumer spending in December rose moderately above the November level and was 12 per cent above a year ago, according to the DUN'S REVIEW Regional Trade Barometer (preliminary). The barometer is adjusted for seasonal variations and for the number of business days in the month.

There were gains from a year ago in

Consumers' Price Index

Revised Index: 1935-1939=100; U. S. Bureau of Labor Statistics

	1949	1950	1951	1952
January	171.7	168.2	181.5	189.1
February	169.9	167.9	183.8	187.9
March	170.4	168.4	184.5	188.0
April	170.7	168.5	184.6	[illegible]
May	170.2	169.3	185.4	189.0
June	170.6	170.2	185.2	189.6
July	169.6	172.0	185.5	190.8
August	169.9	173.4	185.5	191.1
September	170.7	174.6	186.6	190.8
October	169.7	175.6	187.4	190.9
November	169.8	176.4	188.6	191.1
December	168.8	178.8	189.1	191.3†

† Approximation; figure from quoted source not available.

BUILDING PERMIT VALUES—215 CITIES

Geographical Divisions:	12 Months 1952	12 Months 1951	% Change
New England	$240,744,132	$303,592,045	— 20.7
Middle Atlantic	917,097,929	938,823,283	— 2.3
South Atlantic	380,995,690	455,131,999	— 16.3
East Central	888,905,487	994,200,640	— 10.6
South Central	744,300,540	730,529,239	+ 1.9
West Central	318,710,302	288,903,103	+ 10.3
Mountain	143,400,980	153,217,742	— 6.4
Pacific	801,773,430	720,068,286	+ 11.3
Total U. S.	$4,435,928,490	$4,584,466,337	— 3.2
N. Y. City	$500,980,268	$556,572,036	— 10.0
Outside N. Y. City	$3,934,948,222	$4,027,894,301	— 2.3

THE TREND OF BUSINESS

most of the barometers for November; the index for the United States as a whole was at 351.5 (1935-1939 = 100), some 5 per cent above a year ago.

Six of the 29 regions registered a year-to-year decline in consumer spending, compared with three regions in October. The declines from November 1951 ranged from a fractional dip in the Buffalo and Rochester Region (4) to a drop of 7.6 per cent in the Maryland and Virginia Region (18).

Changes from a month ago amounting to 1 per cent or less were registered in five of the regions, while changes of 10 per cent or more were registered in only two regions. The national increase from a year ago was most closely matched by the rises in the Cincinnati and Columbus Region (9), the Indianapolis and Louisville Region (10), and the Kansas City Region (17).

The largest increase from a year ago in retail volume in November occurred in the Iowa and Nebraska Region (15) where the index was up 12.3 per cent. Increases of less than 1 per cent were

Weekly Business Signposts

SELECTED BUSINESS INDICATORS	LATEST WEEK*	PREVIOUS WEEK	YEAR AGO
Steel Ingot Production Ten Thousand Tons	223	224	207
Bituminous Coal Mined Hundred Thousand Tons	95	77	118
Automobile Production Thousand Cars and Trucks	140	132	92
Electric Power Output Ten Million K.W. Hours	812	821	754
Freight Carloadings Thousand Cars	688	563	745
Department Store Sales Index Number (1947-1949=100)	89	81	92
Wholesale Prices Index Number (1947-1949=100)	110	110	113
Bank Debits Hundred Million Dollars	284	313	255
Money in Circulation Number of Failures	299	302	285
Business Failures Hundred Million Dollars	158	163	158

*Steel, automobile, price and failures data are for the third week of December; all other figures are for the second week. *Sources:* Amer. Iron & Steel Inst.; U. S. Bureau of Mines; Automotive News; Edison Electric Inst.; Amer. Assoc. of Railroads; U. S. Bureau of Labor Statistics; Dun & Bradstreet, Inc.

THE TREND of BUSINESS

recorded in three of the regions, Northern New Jersey (5), Minneapolis and St. Paul (14), and Memphis (22).

The barometers for those regions located in the Northeastern portion of the country generally continued to run below the national index, while those in the Southern and Southwestern portions remained well above the national barometer.

Finance At 40.5 million, the volume of shares traded on the New York Stock Exchange in December was the largest for any month in 1952. Volume for the year as a whole, however, fell about 24 per cent below that in 1951 and 70 per cent below the record in 1929.

The Dow-Jones average for the prices of 30 industrial stocks rose 3 per cent in December to 285.95; this was 7 per cent above a year ago.

With the announced intention to bring their rediscount rates into line with those in the open market, and to tighten somewhat the restrictions on credit, eight of the twelve Federal Reserve Banks raised their rediscount rates from 1¾ per cent to 2 per cent effective on January 17. This was the first change of its kind since August 1950. Industrial loan volume edged downward and was moderately below that in the comparable period a year ago.

Industrial Stock Prices

Monthly Average of Daily Index: Dow Jones

	1949	1950	1951	1952
January	179.75	199.79	244.45	271.71
February	174.46	203.46	253.32	265.19
March	175.87	206.30	249.50	264.48
April	175.65	212.67	253.36	262.55
May	174.03	219.36	254.36	261.61
June	165.59	221.02	249.32	[illegible]
July	173.34	205.30	[illegible]	[illegible]
August	179.24	216.60	264.92	276.70
September	180.93	[illegible]	273.36	272.40
October	186.47	229.32	269.73	267.77
November	[illegible]	229.38	259.61	276.36
December	196.7[illegible]	229.26	266.09	285.95

Based on closing prices of 30 industrial stocks.

Retail Sales

Billions of Dollars; U. S. Department of Commerce

	1949	1950	1951	1952
January	9.5	9.7	12.6	11.8
February	9.1	9.5	11.7	11.7
March	10.7	11.3	13.4	12.7
April	11.3	11.4	12.5	13.4
May	10.9	11.9	13.3	[illegible]
June	11.0	12.3	[illegible]	[illegible]
July	10.4	12.6	[illegible]	13.4
August	[illegible]	[illegible]	13.3	13.4
September	[illegible]	[illegible]	13.1	13.6
October	[illegible]	[illegible]	13.9	14.8
November	11.1	11.9	13.4	13.9
December	13.2	14.8	15.4	16.3†

SERIES REVISED STARTING 1951

† Approximation; figure from quoted source not available.

Business Failures . . .

The slight dip in business failures to 583 in December brought the 1952 total to 7,611, some 6 per cent below that in the preceding year. This marked the third consecutive year of downtrend from the post-war peak of 9,246 failures reached in 1949.

The rate of failure in 1952, as measured by DUN'S FAILURE INDEX, was at 29 per 10,000 names listed in the DUN & BRADSTREET *Reference Book*. This compares with a rate of 31 a year ago and 34 in both 1950 and 1949.

The size of casualties increased during 1952, in contrast to the decline in number. Rising to $283.3 million, the liabilities involved in failures were higher in only one year, 1949, in the last seventeen years. This upturn came principally from the failures involving liabilities of $100,000 or more which rose 23 per cent above the 1951 level. Business failures in the $25,000 to $100,000 class also increased, while those for smaller amounts dropped to the lowest number in five years.

Almost 60 per cent of the failures in 1952 were businesses which had started in the years 1948-1952. However, this was the smallest proportion of concerns less than five years old since 1945; it compared with a high of 78 per cent in 1947. There appears to be a tendency toward a higher proportion of failures among older enterprises. Businesses six to ten years old accounted for 26 per cent of 1952's total casualties, the most in this group in eight years.

Manufacturing suffered heavier casualties than in 1951, but other industry and trade groups had fewer failures in 1952 than in the previous year. The declines were rather mild, ranging from 6 per cent in retail trade and commercial service to 10 per cent in wholesaling, and 12 per cent in construction.

The upturn in manufacturing casualties took place in most industries; the only exceptions appeared among food, textile and apparel, and chemical manu-

FAILURES BY DIVISIONS OF INDUSTRY

(Current liabilities in thousands of dollars)	Number —12 Mos.— 1952	1951	Liabilities —12 Mos.— 1952	1951
MINING, MANUFACTURING...	1,581	1,533	104,954	90,970
Mining—Coal, Oil, Misc....	42	38	3,794	6,820
Food and Kindred Products	164	209	12,648	14,474
Textile Products, Apparel..	388	397	19,868	17,313
Lumber, Lumber Products..	245	220	11,758	15,262
Paper, Printing, Publishing	101	89	7,038	5,963
Chemicals, Allied Products.	43	49	3,937	6,056
Leather, Leather Products..	82	67	4,553	2,944
Stone, Clay, Glass Products.	40	31	1,886	591
Iron, Steel, and Products...	50	40	4,234	1,670
Machinery	131	106	19,680	10,360
Transportation Equipment..	44	18	2,530	937
Miscellaneous	251	269	13,028	8,580
WHOLESALE TRADE.........	748	827	40,806	41,572
Food and Farm Products...	217	253	10,363	14,553
Apparel	51	41	1,745	1,265
Dry Goods..............	35	21	1,475	387
Lumber, Bldg. Mats., Hdwr	62	57	3,501	3,137
Chemicals and Drugs.......	23	32	1,140	900
Motor Vehicles, Equipment.	32	31	1,150	2,007
Miscellaneous	328	302	21,522	19,233
RETAIL TRADE.............	3,833	4,088	75,547	72,936
Food and Liquor..........	919	1,063	13,343	13,870
General Merchandise......	135	139	3,086	4,365
Apparel and Accessories....	570	600	10,730	9,596
Furniture, Furnishings.....	428	408	10,677	12,075
Lumber, Bldg. Mats., Hdwr.	187	233	6,705	4,335
Automotive Group.........	302	310	6,225	5,215
Eating, Drinking Places....	828	864	16,097	16,498
Drug Stores..............	107	108	1,008	1,845
Miscellaneous	357	363	6,776	5,134
CONSTRUCTION	838	957	36,145	37,473
General Bldg. Contractors..	317	346	20,812	19,779
Building Sub-contractors...	494	577	14,037	13,653
Other Contractors.........	27	34	1,296	4,041
COMMERCIAL SERVICE.......	178	200	14,909	8,216

THE FAILURE RECORD

	Dec. 1952	Year 1952	Year 1951	P. C. Chge.†
DUN'S FAILURE INDEX*				
Unadjusted	25.3	28.7	30.7	— 7
Adjusted, seasonally..	26.6	...	...	..
NUMBER OF FAILURES.....	583	7,611	8,058	— 6
NUMBER BY SIZE OF DEBT				
Under $5,000..........	88	1,428	1,832	— 22
$5,000–$25,000	304	3,884	4,160	— 7
$25,000–$100,000......	147	1,769	1,634	+ 8
$100,000 and over......	44	530	432	+ 23
NUMBER BY INDUSTRY GROUPS				
Manufacturing	131	1,581	1,533	+ 3
Wholesale Trade.......	45	748	827	— 10
Retail Trade..........	288	3,833	4,088	— 6
Construction	76	838	957	— 12
Commercial Service....	43	611	653	— 6
	(Liabilities in thousands)			
CURRENT..............	$23,400	$283,314	$259,547	+ 9
TOTAL................	23,775	286,098	262,821	+ 9

* Apparent annual failures per 10,000 listed enterprises, formerly called DUN'S INSOLVENCY INDEX.

† Per cent change of year 1952 from year 1951.

BUSINESS FAILURES *include those businesses that ceased operations following assignment or bankruptcy; ceased with loss to creditors after such actions as execution, foreclosure, or attachment; voluntarily withdrew leaving unpaid obligations; were involved in court actions such as receivership, reorganization, or arrangement; or voluntarily compromised with creditors out of court.*

CURRENT LIABILITIES, *as used in the Failure Record, have a special meaning; they include all accounts and notes payable and all obligations, whether in secured form or not, known to be held by banks, officers, affiliated companies, supplying companies, or the Government. They do not include long-term, publicly-held obligations. Offsetting assets are not taken into account.*

facturers. A decline during 1952 in the food industry brought its toll to the lowest level since 1947.

In wholesale trade, mortality fell off 10 per cent, with the decline concentrated in food and chemicals. Most other wholesalers had more casualties than a year ago.

There was a general downtrend in failures in almost all retail lines in 1952, except for furniture where a mild increase occurred. Construction failures fell 12 per cent from their record high established in 1951. In this decline, subcontracting casualties were off more sharply than general building.

Regional Failures

The New England and East South Central States reported more casualties than a year ago. Connecticut and Vermont in the former area and Alabama and Tennessee in the latter were largely responsible for the upturn in these two regions.

Mortality in the Middle Atlantic States was almost even with 1951; while both New York and New Jersey had increases, failures were down in Pennsylvania.

Failures declined in 1952 in the remaining seven regions, with decreases ranging from 6 per cent in the Mountain States to 14 per cent in the South Atlantic and West South Central States. Within the regions, State trends varied noticeably. Failures in the District of Columbia and Virginia increased sharply within the South Atlantic Region, contrasting with marked declines in the casualties in Georgia, North Carolina, and West Virginia.

While post-war peaks in business failures were reached in 1952 in New York and Connecticut, failures in California and Washington continued to decline for the third consecutive year.

The year's downward trend in failures was more pronounced in the non-metropolitan districts than in the 25 largest cities; the decreases were 8 per cent and 3 per cent, respectively. Actually, one-half of the cities suffered heavier casualties in 1952 than in 1951, with considerable increases occurring in St. Louis, Washington, D. C., San Francisco, New Orleans, and Cincinnati. New York City alone was the locus of 25 per cent of the country's total failures.

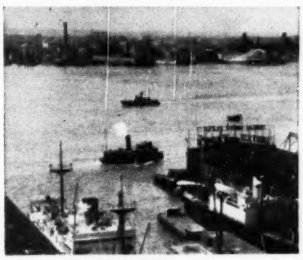
CAREER

(Continued from page 32)

many of these campuses once or twice a year to interview likely youngsters.

Prior to these campus visits, the personnel department reviews manpower needs with each division head and department manager. Determining these needs is facilitated by the company's custom of doing its organizational planning in terms of five-year periods. The operating executives, who constantly are thinking in terms of a fairly remote future, have a sound basis for estimating manpower requirements and thus the personnel department men set out for the campuses armed with precise information as to the number and types of jobs to be filled.

We have no rigid rules or specifications governing our selection of trainees, nor do we employ any of the formal psychological or aptitude tests. Usually, candidates are sought from among those who rank well up in their classes scholastically and who have given some evidence of rounded interests and



MONKMEYER PHOTOGRAPH

leadership capacity by participating in extra-curricular activities. If an applicant earned part of his college expenses, it is considered in his favor.

The interviewer rates each applicant on intelligence, poise, and other factors, makes a tentative decision as to the type of work for which he is best suited, and tries to indicate which man in the Armstrong organization he most resembles.

We insist on specialized background only for purely technical personnel; for candidates for sales and for most staff departments we consider comprehensive study in liberal arts or business administration adequate preparation.

If we are seeking 75 or 100 new men—the number we take on in an average year—the personnel department representatives may interview as many as

several thousand possibilities during these campus contacts. From these several thousand, 150 to 200 will be invited to Lancaster, Pa., our company headquarters, at company expense, to be interviewed by division and department executives, who make the final decision on hiring. Each man is hired for a specific opening, and the final decision is made by the executive for whom the candidates will work.

The First Step

Several weeks after the close of the college terms all the men report to Lancaster, usually early in July, to begin their training. The first week is devoted to an orientation program designed to give the trainee a co-ordinated, over-all picture of the company's background and activities, and at the same time to extend to him an opportunity to absorb some of the corporate personality as reflected in the company officers and executives who lead the meetings.

After this initial week of induction the training is decentralized and the men report to their respective divisions and departments for prolonged specialized study. The courses vary in length from several months to six or eight months—or even longer in the case of Foreign Operations. Of necessity, the training methods and procedures also vary somewhat from division to division and from department to department, with both group and individualized plans being used.

Each division and department trains its own men, with an executive in each unit specifically responsible for planning and carrying out the training pro-

"That is not what I meant by making your work fun!"

gram. This we consider an extremely important provision of our system, in that it creates a real incentive to help make the candidate succeed.

The training programs are tightly scheduled far in advance and the executive in charge sees to it that the schedule is followed. We try to make thoroughness the keynote of all our training.

Thorough Training

In a typical sales training course, for example, the men attend some classroom sessions on distribution methods and policies, pricing, competition, and similar subjects; spend some weeks in the plants and laboratories to learn at first hand all about the composition and manufacture of the products they will merchandise; inspect typical installations of the products; and visit the various staff departments of the company, such as advertising and promo-


DEVANEY PHOTOGRAPH

tion, traffic, credit, and others which contribute to the comprehensive knowledge of the business which an effective salesman must have.

The men follow an order for a commodity through each step, from the time it is received in the mail to its shipping and billing. Practise selling sessions, in which the trainees learn to apply as selling points the information they are acquiring, are held from time to time in later stages of the training period. These sessions are conducted by men with years of sales experience.

After the trainees have received a solid grounding at the Home Office, they go into the field for further training. Generally, if the trainee happens to be a Floor Division man, he will spend some time in a wholesaler's establishment getting the wholesaler's point of view and studying his management set-up and then he will go on to a retail

store for a period where he actually sells to consumers the linoleum and other resilient floorings which, as a Floor Division salesman, he will handle.

Following his practical selling experiences under the eyes of the wholesaler and the retailer, the trainee then is sent to an Armstrong district office where he receives field training under the direction of the district manager. Upon completion of this field training, he returns to the Home Office, is assigned to a district office, and is put to work in his own individual territory—some six months after he reported to the company.

Fraternal Atmosphere

During the training period, all of the company's budding salesmen live at Armstrong Manor, a large country home with spacious grounds located near Lancaster. Here, in an atmosphere not too unlike that of a fraternity house, the trainees study together in the evenings, discuss the things they have seen and heard during the day, and have a chance for outdoor recreation.

During the months the group spends together at the Manor, esprit de corps develops and many firm friendships are formed, so that years later Armstrong men speak with some pride of their "class at the Manor." This mode of living smooths the transition from college to business life and it helps immeasurably to create an intimate identification with the company which is basic to the career idea.

This method of recruiting and train-

"Who else wants a drink?"

ing is undeniably expensive. The neophytes' salary begins on the day they report to the company; and the prolonged training consumes considerable executive time—though I am convinced that the men who assist in the training receive something of value as well as the trainees. Should a mistake be made somewhere along the line, either in the selection of the trainee or in his training, and he decides to leave the company before he begins to produce or soon thereafter, a substantial investment—probably in the neighborhood of $10,000—departs with that man. This is a risk that must be run, but our experience to date indicates that it is not a serious one and it is well worth taking.

Watchful Guidance

Throughout the training period and during the fledgeling's first years on the job, his progress is closely checked by those responsible for his training. These executives not only want to make available to him whatever further help may be needed, but they also are concerned with the graduate's performance in order to evaluate the effectiveness of the training technique.

There are, of course, much more important reasons for keeping in close touch with every individual in a career company, wherever he is located and whatever the nature of his work, whether in the field or in a staff department at the Home Office, and whatever the length of his service record. Since everyone is expected to remain with the company, to increase his effectiveness, and to advance to greater responsibilities just as quickly as he becomes capable of assuming them, an undeviating policy of promoting from within is required. This policy, in turn, demands that management have the means to keep every man under constant and careful evaluation in order that promotions and salary increases are given promptly to those who earn them.

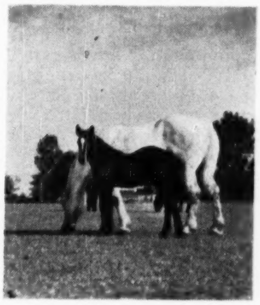
One of our effective methods for keeping in touch with our men and strengthening their relationship with the company as a whole is periodically to bring them in from the field and factory and take them out of their staff departments for a week of refresher at the Home Office. During the week's program they have an opportunity to catch up

with technological and policy changes, meet informally with the company executives, and trade experiences with each other. Aside from more tangible results, the feeling of institutional pride is renewed and morale is strengthened by these refresher periods.

The Hardest Part

While sound recruiting and training practises and a faithful policy of promoting from within are practical essentials, these measures do not of themselves make a career company. There are other requirements, perhaps less susceptible of precise definition and certainly more difficult of achievement. As indicated earlier in the article, all policies and all management decisions in a career company should reflect the long-term view.

Financial policy, the company's attitude toward advertising and product development and research, its feeling toward competition and the position it seeks to occupy in its industry, its conception of its responsibilities to stock-



holders, customers, suppliers, local communities, and government, as well as to its employees—all are involved and all should be in tune with the career idea.

To induce able men to want to cast their fortunes with it and give it their lifetime loyalty, a company should not quail before every cloud on the economic horizon and it must be prepared to sacrifice immediate gain in the interest of long-range advance; to lose a tactical engagement for the sake of strategic triumph. It must be an organization of principle rather than mere expediency, its goals must be established, and its motto might well be the words of Disraeli, "Constancy of purpose is the secret of success."

THE END

EUROPE

(Continued from page 33)

country, would benefit from convertible currencies.

Sweden

Recent developments in Sweden illustrate the interdependence of the European economies. Sweden's exports, largely to England and France, represent about 20 per cent of her national income. After Korea there was a great demand for her forest products, with a sharp increase in prices.

In the boom following Korea general wholesale prices rose about 43 per cent, cost of living about 22 per cent, output by 60 per cent, and wages by

CONCERT HALL, STOCKHOLM—CUSHING PHOTOGRAPH

35-40 per cent. In 1952 the boom came to an end as tightened import restrictions were imposed by other European countries. The situation at present appears to be one of uneasy equilibrium.

Sweden has followed an active disinflationary policy during the past year. Taxes have been raised and the cash budget shows a substantial surplus. Additional monetary and credit restrictions have been imposed and the inflation of the past several years appears to have been stopped.

The Swedes are concerned about the effects of rising wage costs on their future trade position. Swedish wage negotiations are highly centralized; a national wage pattern worked out between the Central Employers Association and the Confederation of Swedish Trade Unions governs wages of practically all workers, including white collar workers and foremen. Last Spring wage increases averaged 13 per cent for all groups and 11 per cent for

industrial workers. Further increases in the cost of living index will result in additional wage increases, as the national wage agreements include escalator clauses. About 60 per cent of the workers are paid on a piece-rate basis; this helps to keep down the increase in wage costs.

With foreign trade being such an important factor in their economy, Swedish business men are naturally concerned regarding future United States policy as to tariff and customs regulations.

General Observations

While the economic problems differ markedly from country to country, we were struck by certain characteristics and developments common to all or most of the countries visited.

1. We were impressed by the progress made since the war by all countries. Physical volume of industrial production of Western Europe is roughly 40 per cent above pre-war levels. In each country, per capita output has surpassed the pre-war level.

The increase is the more remarkable because a great deal of capital and labor has had to be used for reconstruction. Much of the war damage has already been repaired, although the effects of the bombings are still very evident, especially in Frankfurt and London.

The stock of goods in the stores is better than at any previous time since the war. Food is plentiful except in England, and even in England the restrictions have been relaxed a good deal. Marshall Plan aid has played a very important part in this rapid economic recovery, both in hastening re-

"Mister, I've been scrubwoman for some of the dirtiest firms in the city."

construction and in achieving increased production.

2. We were struck also by the evidences of interest throughout Europe in increased productivity. The rate of productivity gain is still rather low in most countries, judged by United States standards. But the growth in attention paid to productivity problems is remarkable. The word "productivity" is on everyone's lips.

Efficiency Rising

In good part this growth is a result of MSA's efforts. I believe that one of the most constructive results of the ECA-MSA programs may be the growth of interest in increased efficiency and rising productivity that these organizations have stimulated.

3. An acute shortage of capital exists throughout Europe. Much capital was, of course, destroyed or lost during the war. Since the war domestic investment in productive industry has been held down sharply in most countries by strong demands for consumption goods, by the need to export capital goods, and by the requirements of rearmament.

Vigorous efforts to hold down demands for consumption goods and to hold back expenditures for public investment wherever practicable would also make additional capital available for production. In view of the general need for capital, it would seem important also to encourage capital import, especially from the United States. Extension of US guarantees against unusual exchange and political risks would be helpful in this connection.

4. The persistent tendency toward inflation which has characterized some of the European countries since the war—notably England, France, and Sweden—has eased considerably during the past year. In part this is due to the world-wide catching up with demand. But in part it is due to more determined application of anti-inflationary policies by the countries that are concerned.

Governments have been making increased use of fiscal and monetary measures to control inflation, with generally favorable results. They have also been learning, as we have in the United States, that direct controls over prices and wages do not successfully control

inflation, and such controls are being relaxed throughout Europe.

5. Social welfare costs are a larger part of the budgets of these countries and are also a more important factor in the cost of business operation than in the United States. This is due to the active part taken by labor unions in politics.

Union Interests

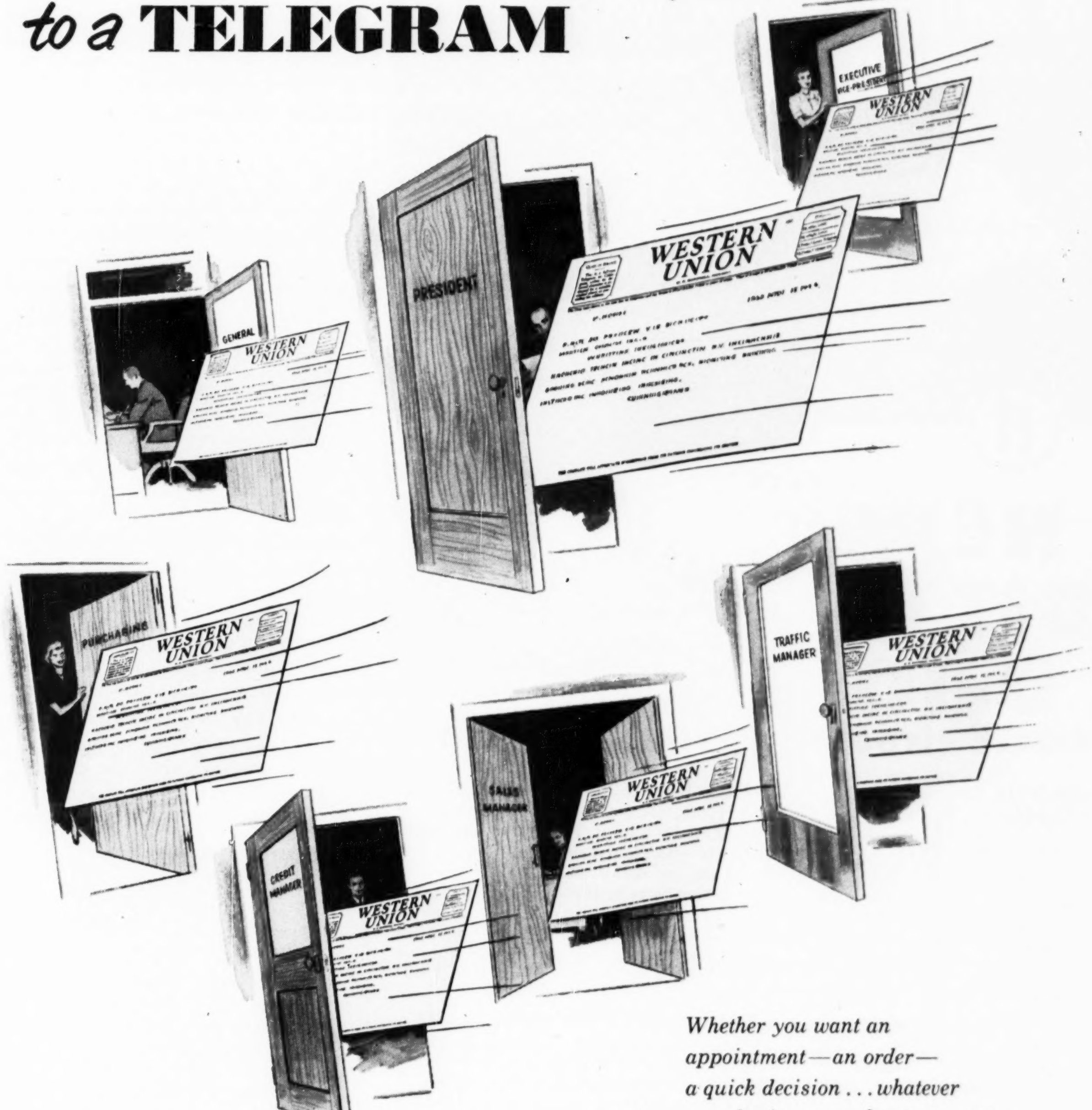
Union leaders are frequently as much or more interested in obtaining increases in social welfare benefits from the government as they are in wage increases. This dependence on social welfare benefits interferes with the individual's incentive.

6. One of the most serious underlying problems affecting Western Europe is that of reestablishing a satisfactory pattern of world trade. Present trade dislocations result in part from the war, in part from the virtual stoppage of trade with communist dominated countries since the war, in part from attempts by raw materials producing countries to industrialize, and in part from the increasing relative efficiency and self-sufficiency of the United States.

The resulting dislocation has given rise to the persistent "dollar shortage" problem, and to the growing net of import restrictions, tariff subsidies, and other barriers to trade. Progress has been made in the liberalization of trade

"Go ahead, big mouth, explain what you meant about 151 taxes hidden in a loaf of bread!"

EVERY DOOR *swings open* to a TELEGRAM



Whether you want an appointment—an order—a quick decision . . . whatever your business . . . when you want to reach the man who counts—the quick, sure way is to send a Telegram!

NOTHING ELSE GETS THROUGH—GETS ACTION...

LIKE YOUR MESSAGE ON THE YELLOW BLANK

by the European Payments Union, but some of this gain has been lost during the past year by new restrictions, imposed as a result of the balance of payments crises recently experienced by England and France.

There appears, however, to be a growing recognition throughout Europe of the importance of broader markets and greater freedom of trade for the European economies. This is shown by the general support of the Schuman Plan, by the attention given plans for the integration of other industries, and by the interest Europeans show in plans for political integration.

A Talking Point

Many people in Europe seem to be talking integration these days—the opportunities it offers for increasing production and productivity, the prospects for more effective defense against attack, and the economic and political problems presented. The problems of integration were, for example, the central subject of discussion and analysis by the business men of the CEPES group at the Milan meeting we attended. The very fact that these important groups, and others like them, are discussing integration seriously seems to us significant

Rapid progress cannot be expected as the problems of integration are exceedingly difficult. This is evidenced

DEVANEY PHOTOGRAPH

by the difficulties and slow progress being experienced with the Benelux Customs Agreements.

7. There seems also to be increased interest throughout Europe in the establishment of currency convertibility. Leaders in each of the countries stressed the desirability of increased world trade, and of moving as rapidly as possible to general convertibility of currencies on current accounts. Most

Europeans we talked with, however, believe that the conditions are not yet right for the adoption of this move.

The establishment of firm internal economic stability, further improvement in production, trade liberalization, and increases in available reserves were thought to be necessary first. As one important banker put it, "Convertibility begins at home," and another observer, "You must first be able to convert pounds into beefsteak."

Defense Burdens

8. The burden of rearmament and the shifting of productive facilities to defense are causing serious repercussions in the West European countries, in export trade, cost of living, taxation, and economic conditions generally. The Korean war had a sharper effect on the commodity price level in Europe than in the United State. The Indo-Chinese War has been a serious drain on the French economy, while the Malayan War has also imposed a drain on England.

The burden of armament appears to be relatively greater on several of the European economies than on this country, although the size of the European program is, of course, much smaller. This is so because the share of national output which can safely be diverted from consumption and investment is so much smaller.

Taxes in European countries are generally higher, relative to their gross national products, than in this country, and the further tax increases called for by rearmament may have serious effects on incentives. Moreover, the rearmament program falls most heavily on the metals-using industries, whose products are most in demand both for export and for the improvement of domestic plant and equipment.

9. We were struck by the absence of hysteria or even talk of war throughout Europe. Fear of the Soviet Union and its military and economic capabilities does exist, but the belief seems to be general that Stalin will not attack Western Europe in the near future. All agree that the increased military strength of the Free World has greatly improved the situation.

While NATO's defense plans are somewhat behind schedule, considerable progress has been made in build-

ing up the military strength of Western Europe in the past two years. There is no general desire to reduce the defense program. The ease in the general situation, however, and the difficult budget problem naturally cause questions as to whether the armament program cannot be stretched out.

Red Tide Ebbs

The strength of communism seems to be waning in all the countries visited, although social and economic equalities continue to offer ground for agitation in some areas. The number of real communists appears generally to be much smaller than is suggested by the election returns. Many of those who vote communist do so in protest against real or imagined wrongs rather than because of any ideological attachment.

10. The importance of the rôle played by the United States in Western Europe's affairs is most striking; one gets a feeling of marked dependence on the political and economic leadership of America.

Thoughtful Europeans realize the major part played by American aid in helping them rebuild their economies. There is also widespread approval of Mr. Butler's comment that Europe wants "trade and not aid." They are perhaps inclined to over-emphasize the influence of American economic policies on their future. It is difficult, however, for an American to realize how even a minor economic adjustment in the United States, such as that in 1949, for example, affects the economies of the Western European countries, and particularly Great Britain.

While Europeans are inclined to ex-

"Hanley, I've got a little surprise for you!"

aggerate the obstacles to European trade represented by our commercial policies—the tariff, our complex customs regulations, the "Buy American" Act, and our shipping restrictions—we in this country must recognize that these obstacles do exist. We were often told that even more important than the level of our tariff is the risk that increased sales on the American market will result in tariff revision upward, under the "peril point" provisions of the present tariff act.

Eyes on US

The Western European countries appear increasingly to be looking to the United States for leadership both in the drive for higher living standards and in the fight against communist imperialism. They are looking to this country—the largest market in the world—as a market for more of their products, and to the United States—the wealthiest nation in the world—as a source of some of the private capital they so badly need.

Our trip convinced all of us of the need for a comprehensive review of the United States foreign policy, our commitments and obligations, and the ways in which these can and should be met in the interest of a strengthened Free World and a strong America.

Several of CED's policy statements, including our recent statement on "The Threat to Our National Security" have pointed out some of the policies which we think should be adopted here in attaining our goals of increased trade and higher living standards throughout the Free World.

Our Committee plans to issue soon a policy statement on the common economic problems of the United States and the United Kingdom, and our subcommittee on International Economic Problems plans to review United States policies relative to other parts of the Free World, with a view to developing the fundamentals of a foreign economic policy, adapted to the changed situation in these areas. We hope that we can make some contribution to a better understanding of how the United States—Government, business, and the people—can meet the responsibilities inherent in our present position of leadership of the Free World.

THE END

the BUSINESS QUIZ

HERE IS YOUR OPPORTUNITY TO PROVE THAT YOU KNOW ALL ABOUT PEOPLE! A CORRECT ANSWER TO EACH OF THE TEN QUESTIONS COUNTS TEN POINTS. YOU MAY BRAG ABOUT A SCORE OF 100, 70 IS RESPECTABLE; BUT LESS THAN 70 INDICATES THAT YOUR MARKET-AWARENESS NEEDS TONING UP. THE ANSWERS ARE ON PAGE 99.

LORRAINE CARSON
Associate Editor, DUN'S REVIEW

1. In 1870 about one-half of the population was under 20 years of age; to-day the proportion is closest to:

☐ a. 25 per cent ☐ c. 45 per cent
☐ b. 33 per cent ☐ d. 60 per cent

2. Although the death rate for children in the United States is lower than that in most other countries, mortality at the ages of 45 and over is comparatively higher here than in most of Europe, resulting from the prevalence of this disorder:

☐ a. heart-kidney ☐ c. accidents
☐ b. cancer ☐ d. pneumonia

3. Fifty years ago, 4 per cent of the population was aged 65 or over; to-day the proportion is closer to:

☐ a. 8 per cent ☐ c. 16 per cent
☐ b. 12 per cent ☐ d. 20 per cent

4. A person aged 65 in 1952 could expect to live to be about 79 years old; this was how many years longer than a 65-year old could expect in 1900?

☐ a. 2 years ☐ c. 10 years
☐ b. 6 years ☐ d. 14 years

5. Accounting for over 20 per cent of the total mortality of males under 45, and far outranking all other causes of death in the United States for this age group is:

☐ a. cancer ☐ c. accidents
☐ b. tuberculosis ☐ d. pneumonia

6. It is expected that women with paying jobs will constitute one-third of the working force by 1975; this is the proportion to-day:

☐ a. 10 per cent ☐ c. 28 per cent
☐ b. 20 per cent ☐ d. 35 per cent

7. Although the numerical increase in our population from 1940 to 1950 was the largest for any decade in our history, there was a population decrease in this proportion of our 3,073 countries:

- ☐ a. 10 per cent
- ☐ b. 33 per cent
- ☐ c. 40 per cent
- ☐ d. 50 per cent

8. Over half of our population in 1950 was concentrated in this percentage of the counties:

- ☐ a. 9 per cent
- ☐ b. 16 per cent
- ☐ c. 21 per cent
- ☐ d. 35 per cent

9. As a group, the central cities in the United States had a population increase of about 13 per cent in the decade 1940-1950; the suburban areas had an increase of about:

- ☐ a. 15 per cent
- ☐ b. 25 per cent
- ☐ c. 35 per cent
- ☐ d. 45 per cent

10. Over the last four decades the farm population has been reduced by about:

- ☐ a. 10 per cent
- ☐ b. 25 per cent
- ☐ c. 30 per cent
- ☐ d. 35 per cent

FOREARMED

(Continued from page 35)

ning so often requires close study of external trends when we consider that the primary moving forces that affect sales are outside the company. The company that is quick to adapt its program to these trends benefits on several counts. It has the obvious volume benefit of serving a growing demand. By being earlier than competitors it may often establish itself in a firm position that is hard for competitors to shake. And the profit margins on a new product are usually greater than after it has become a standard for the industry.

Leading food manufacturers have carefully followed changes developing in the nation's eating habits. They recognize that higher incomes, less heavy manual work, less domestic help in the home and similar changes have affected food preferences. Thus, lighter foods and time-saving food preparations are emphasized in the product line. The rapid expansion of the frozen food industry is another reflection of the trend; as are prepackaged meats and fresh produce.

Changing use habits may also seriously affect the demand for existing products. A builder of fire brick linings for steam locomotives awoke to this situation after many years of profitable operations. Although the company knew that the shift to diesel engines was gradually restricting its market, the threat did not appear pressing. Its service was primarily to locomotives already in operation rather than to the more sharply affected market for new locomotives. Unexpectedly the company's major supplier, who was also the major competitor, decided to reserve the dwindling market to itself. With no other adequate source of materials, the company made last minute attempts to enter other fields, but was forced to liquidate.

While technological developments frequently seem to strike the market with sudden impact, study of underlying factors will often give advance warning and guide companies in planning. Television was heralded for so many years before its real arrival that most people rated it a slow-moving industry. Then the war accelerated the development of cathode ray tubes and

other electronic equipment for radar.

The moving picture companies were slow to recognize the threat that they faced. Their public reaction, at least, to the mounting evidence was that the novelty of television would wear off and that better movies would solve their problem. But the convenience of home entertainment offered by the flick of a switch goes far to offset program deficiencies or other shortcomings of television.

Sail with the Tide

To-day every company concerned with making or exhibiting movies recognizes that it must face up to this external problem. Smaller producers and even larger companies through their subsidiaries have decided to make friends with the enemy and produce television films. Several devices have been tested for a new type of theater entertainment, such as three-dimensional pictures or large screen television with exclusive theater showings. Subscriber systems would carry films to the home television sets at a special viewing charge. Drive-in theaters compete

MONTICELLO—GENDREAU PHOTOGRAPH

with television's convenience. No baby sitters are necessary when the entire family is loaded in the car, and the usual theater problems of dressing up father and of making him find a parking spot are avoided.

It is too early to know which of these many attacks may revitalize the moving picture industry or even if there is a satisfactory answer. But the variety and ingeniousness of the proposals show how creative companies can become when an external pressure is strong. If the industry had recognized television's ultimate importance early in the trend, how much greater opportunities individual companies might have had to find ways of protecting profitable operations!

Commercial and technical research are almost mandatory in many indus-

tries as a tool for staying abreast of outside competitive developments. Every important chemical and oil company has a research laboratory to-day. Yet research of itself has little immediate commercial importance unless it is guided by "business" thinking (and this is no intended slight to the longer range importance of "pure" research). More and more product development groups are being headed by executives who are not expert technicians, but who can set the goals of research to fit outside market needs.

Watch the Goal

The record of two comparable chemical companies stand in contrast. One spent millions of dollars on fine laboratories and equipment, but has yet to develop any product of sales importance. The other company has not attempted to be a basic inventor. But it has been quick to sense when trends favored a new product and to rush through its own product development in time to be a sales leader.

One of the leading drug manufacturers finds it essential to study the shift in the causes of mortality. Its own developments in the field of antibiotics have helped to bring a sharp drop in deaths from contagious bacterial diseases. Research attention has therefore been transferred to those diseases that will represent the problems of the future. For example, the virus represents an unsolved mystery in medicine. If it can better understood, the company may find such commercially important products as an answer to the common cold.

The long-range upward movement of labor rates and the constant pressure for various labor benefits are factors

"I don't want to be disturbed for the next 30 seconds!"

well recognized by every employer. The underlying factors are not easily diagnosed, but a growing number of companies are striving to look below the surface.

Probably the most common and direct reaction to rising labor rates is to find opportunities for labor-saving devices. Most companies are exploring the possibilities for greater mechanization, more materials handling equipment, and the like.

Other Problems

While these moves have frequently brought large increases in productivity which offset rising wages, equally important gains may stem from an understanding of basic changes in the nation's economy. The trend toward industrialization and mass production carries with it the greater specialization of labor. Less and less can the average worker identify himself with the end product of his efforts or with the company of which he is such a small part. He tends to lose the incentive of pride in workmanship and focuses attention on his pay envelope as the sole satisfaction for his work. Job security and participation in decisions affecting workers rise as labor goals as the worker finds himself a mechanical part of a large operation.

Easy solutions to the problems resulting from these trends have not been found, but a number of companies believe they have made meaningful progress. A clothing manufacturer, with a highly specialized production job, encountered a severe problem in quality control. When finished products failed to pass inspection, it was difficult to trace the fault back to the source. Even when this was possible, the interest of the individual worker was on output from his particular operation rather than on final output.

Production was rearranged into a number of smaller units comprised of the specialized jobs, so that each group could make the finished product. Jobs were rotated within the group to give greater worker interest through variety. Each group felt a greater responsibility for its finished product, and quality difficulties were greatly reduced. Not only was morale strengthened, but actual production picked up.

A variety of other efforts have been

made toward job "enlargement" and a heightened feeling of worker identification with his company. Suggestion systems and group discussions have been effective when they reflect a true interest in the ideas of the worker rather than an imposed "education." House organs and plant tours may increase knowledge and interest in over-all company operations. Profit-sharing has a mixed history of success, but has been attempted with an aim of giving the employee a closer sharing of objectives with his company.

Modifying Forces

The preceding examples can give only a taste of the many factors outside the direct control of management that must be considered in sound planning. While these forces do not lend themselves to any simple catalogue they seem to fall primarily in the areas of general economic conditions, industry demand and competition, income taxes, other Government controls and action, costs and objectives of labor, sociological trends, geography of costs and markets, industrial and commercial technology, and the capital market. Two

GENDREAU PHOTOGRAPH

more topics of considerable current interest—the outlook for war or peace and trends of inflation—show their effects through several of the other factors.

It is the rare company that does not modify its plans when it is faced by critical outside forces affecting its business. But alert executives act well before the eleventh hour. They make a conscious effort to seek out the external factors that may influence the company and appraise the problems and opportunities that are presented. While their planning solutions may be far from perfect, their companies usually appear at the front in the profit parade.

THE END

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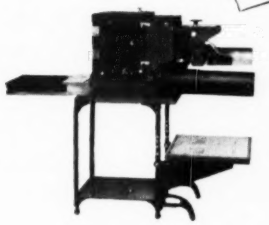

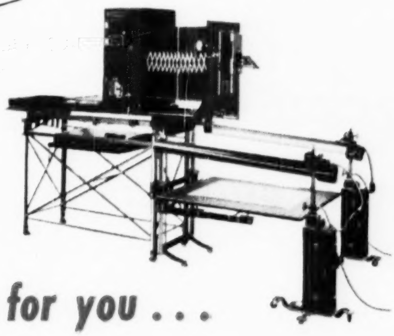

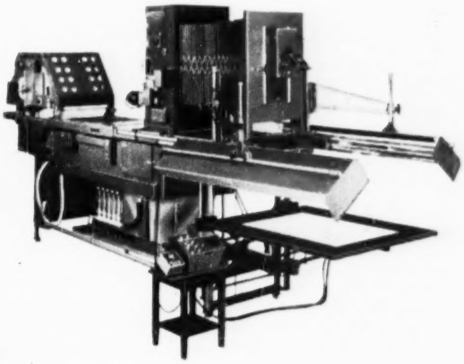

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The Business

Setting Prices

Although a cynic has been described as one who knows the prices of all things and the value of nothing, it would be most difficult to evaluate and understand the business system without realizing how prices are created. Price, the hinge upon which a market economy turns, has been as difficult to understand as the vagaries of desire. However, Professor Alfred R. Oxenfeldt has banished much of the misunderstanding and uncertainty about the pricing mechanism by presenting a meticulously documented analysis of American industry in his book, *Industrial Pricing and Market Practices.*

While the author doesn't entirely forsake theory in his attempt to describe the myriad factors that go into the determination of prices, his primary concern is with the actual practises in industry, sometimes collusive, ofttimes banefully competitive. Many readers, jaded by the pedantry and nebulosity of some economic tomes, will be pleasantly surprised by the author's crisp, engaging style and his penchant for humanizing the subject by placing actual business leaders in perspective.

Whether prices in various industries are determined by costs, collusion, or competition is but one of the many fascinating questions assayed by the author. Speakers addicted to mouthing the shibboleths of free enterprise owe it to themselves as much as to their listeners to consider the conclusions offered in this volume. While some business men will doubtless find it difficult to embrace some of the conclusions in this book, all will be fascinated by the patient, painstaking performance in pinpointing the available evidence about the making of prices in America to-day.

Prentice-Hall, Inc., New York, 602 pages, $7.65.

Time to Retire

Retirement can be either a land rich with promise or a dreary desolation depending on whether one has gathered about him sufficient material and cultural baggage before the crossing is

Bookshelf

attempted. This is one of the many cogent conclusions to be culled from *Some Observations on Executive Retirement* by Harold R. Hall who, after an active business career of 30 years, devoted his full energies as a Harvard research professor to the perplexing problem of retiring executives.

Offered as a pioneer study in this field, the book draws on the experiences of more than 400 executives, some in pasture and others yet in harness, and offers detailed descriptions of the manner in which many companies have unbuckled harnesses smoothly, an exercise pleasing to both the retiring and the aspiring.

That such a pleasant prospect as leisurely retirement should become a problem is perhaps a reflection of the single-minded devotion of many executives to their work, an intensity that frequently turns leisure to listlessness and rest to restiveness. When to retire, where to live, what to do to fill the hard-earned hours are among the many facets of the problem pondered by the author. The ten-fold growth of executive pension plans during the past decade and the steady rise in the age of top management clearly call for increased awareness from those still holding the reins of responsibility.

Harvard University, Graduate School of Business Administration, Boston, 298 pages, $3.75.

Wild Blue Yonder

Exhaustive studies of individual industries, closely documented and rich with data, have been painfully rare. So, it is gratifying to discover a volume such as Joseph L. Nicholson's *Air Transportation Management* which is an encyclopedic scrutiny of an industry that has received even less attention than many others.

The author's approach is beyond the mere descriptive. His analytical probing of the economic workings of civilian aviation should prove invaluable to investors, transportation executives, and others concerned with the growth of this mercurial industry. While the main emphasis is on the large commercial airline, other seg-

ments including air-mail, airports, air freight, and helicopter lines, have not been slighted.

The volume is studied with tables of operating data, useful as directional beams for finding one's way about a complex industry. Effectively disentangled are such knotty issues as Government regulation and assistance, and the "chosen instrument" controversy. Executives who are frequently air-borne will find rewarding reading in the chapter on the problem of accidents which incidentally result in a 20 per cent drop in business that lasts for 28 days. Another of the many interesting facts to be gleaned from this book: one of the first pieces of airmail was received by Benjamin Franklin in 1785.

However, air-minded a reader may be, he is certain to conclude on closing this volume that this knowledge of civilian aviation is well-grounded in figures and fact.

John Wiley and Sons, Inc., New York, 446 pages, $6.50.

A Novel Approach

Although the busy business man has not been particularly addicted to the reading of novels, the new book *Executive Suite* by Cameron Hawley has richly earned the attention of eyes accustomed to scanning balance sheets and operating manuals. For Mr. Hawley, an executive with 25 years' experience behind him, has broken with the pattern of scathing satire that has marked fiction about the business man in the past and resulted in the introduction into the language of such opprobrious terms as "babbitt" and "huckster."

Neither iconoclastic nor idolatrous, the author limns the man of business in a new realistic light as he tells the highly suspenseful story of the struggle for power that develops in a corporation among five vice-presidents when the resourceful, but overly individualistic president dies unexpectedly in mid-stride. Frequently in the past, novels have offered unsurpassable sources of information about particular subjects: *Moby Dick* on cetology, *Darkness at Noon* on the Communist mentality among many others. Although *Executive Suite* offers scant promise of ranking with these, readers in search of a unique experience in the

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For instance—bank money helps finance many of the 45,000 wells drilled annually in this country. Bank money contributes to pipe line, tank ship and refinery construction. Bank money helps in the *research* for better gasoline and hundreds of other petroleum products. Ultimately, bank money reaches the retail sales level and in many cases helps finance the neighborhood service station operator.

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Houghton Mifflin Co., Boston, 344 pages, $3; Ballantine, New York, paperbound, $.35.

Remarkable Rapport

To re-weave the tattered fabric of industrial harmony demands the skill of blending the warp of self-interest with the weft of compromise. How a well-known peace-maker with encompassing experience in the California State Conciliation Service developed his techniques for staving off strikes is tersely told in the new book, *Conciliation in Action* by Edward Peters. The author illumines the way to labor-management harmony by spinning yarns from the confidential records of the State Service which chalked up the enviable score of settling successfully 86 per cent of the disputes it entered.

Although the experiences recounted here would be of interest primarily to professional peacemakers, management men about to enter the process of negotiation, which frequently resembles a poker session, will consider this volume somewhat akin to a peek at the cards. Business men will find the passages on how to discover the real issues in a dispute, the mediator's bag of tricks, the uses of bluffing, the unimportance of the merits of a case, and other sections as welcome as a friendly handshake.

National Foremen's Institute, New London, Conn., 270 pages, $4.50.

Faithful to the End

Bereft of a personal philosophy of life, man would founder like a rudderless ship. Such is the personal belief of many of the 100 thoughtful people, including a score of business leaders, who contributed short essays to the new book, *This I Believe,* written under the aegis of Edward R. Murrow who conducts the popular radio program of the same title.

Since most of the squibs in this book are the distillation of long years of struggle and success, it is a book abounding with inspirational messages for those in need of refurbishing their own scale of values. Whether the book is a testament to the putative return to religion or an affirmation of materialism is for the reader to decide.

Simon and Schuster, New York, 200 pages, $3, paperbound, $1.

QUIZ ANSWERS

The Quiz begins on page 86

1. b—*33 per cent.* Major factors in the aging of our population are declines in immigration, fertility, and mortality.

2. a—*Heart-kidney.* At least 20 per cent of our adults are believed to be more or less seriously over-weight, with the proportion higher for males than females. It is thought that, as a result of our prosperity and abundance, a large number of our people are literally eating themselves to death.

3. a—*8 per cent.* Advances in medicine have helped to prolong the lives of both young and old.

4. a—*2 years.* There is not much evidence that the human organism's potential life span has increased appreciably from the old biblical three-score years and ten.

5. a—*accidents.* Possibly because of the more widespread ownership of cars and planes among our youth, the accident death rates for our white males under 40 far surpass those in Europe.

6. c—*28 per cent.* The up-trend in the employment of women is especially significant to the women's wear industries and to retail trade in general.

7. d—*50 per cent.* By States the changes in population ranged from an increase of 53 per cent in California to a decrease of 4 per cent in Oklahoma.

8. a—*9 per cent.* These areas account for two-thirds of the retail volume and about 90 per cent of the wholesale volume in the country.

9. c—*35 per cent.* Retail sales increases from year-to-year have been much greater in the suburbs than in the central cities. Changes in retailing methods and consumer buying habits have also resulted.

10. b—*25 per cent.* While farms have grown fewer, they have also grown larger. Improved seeds, feed, and farming methods, require fewer families to produce our food and raw materials.

WINDOWS

(Continued from page 37)

cer, arteriosclerosis, mental ill-health, and so on. These are the ailments which only come to the surface as the mass diseases which previously masked them are eliminated.

Just as health is better in the highly developed countries of Western Europe and North America, so is the education. It is only in these fortunate countries and in Australia and New Zealand that practically all children receive a complete primary education. Only there do relatively high percentages of students continue on to secondary schools, colleges, and universities.

The situation in the less-developed countries is quite the reverse. To provide universal education requires adequate school facilities and these have never existed. Universal education implies a universal language; a spoken and written tongue taught to all and understood by all. Primitive countries sometimes have no written language, but do have a confusing variety of spoken languages.

The Belgian Congo has over 200 languages. Add this babel to the lack of schools and teachers and it is easy to see why so few of these countries have been able to provide schooling, even when they have seen universal education as a national goal.

Birth rates are generally lower and life expectancy longer in the United States and other industrially advanced societies than in primitive areas There the proportion of school-age children, as a result, is as much as twice as high as it is in our own country. In developed countries there are four or five adults aged 20-69 to support the schooling of each child. In less-developed countries there are only two adults to support each child.

This, along with other conditions such as the generally low levels of national incomes, means that the as yet under-developed countries may spend a higher proportion of their national income on education yet come nowhere near the standards of schooling attained in more developed countries.

Like income, education suffers from faulty distribution. Most countries have indeed accepted the principle that primary schooling should be available

to all children on equal terms, but this is still more a hope than an attainment. In every country, rural children are at some educational disadvantage when compared with city children, but that disadvantage grows greater in proportion to the poorness of communications and the poverty of the farming population.

Other Differences

These are not the only factors which create disparities in opportunity for schooling. Sex, race, religion, occupation, and income of parents also frequently determine the extent and quality of schooling open to a child.

Higher education in less-developed areas takes a curious bent. Certain professions have prestige. The colleges turn out many graduates in these prestige professions and very few in other fields. The idea that only lawyers or doctors are of a social or intellectual elite acts as a roadblock, obstructing the use of higher education for raising standards of living. In Japan, the Ministry of Agriculture is manned chiefly by lawyers. In Argentina, scientists and experts remain on the theoretical level, and rarely come face to face with practical problems or with the practitioner in agriculture and industry.

The problem of a more modern attitude toward higher education is one which has the attention of many countries. But the problem of doing away with illiteracy is, as yet, the bigger one. With schools and teachers lacking, many undeveloped countries have turned to mass educational techniques in order to instill the necessary knowledge and teach the skills needed for

"What do you mean it would be wrong to put your wife's lunch on your expense account?"

raising living standards of the people.

More than one such country is adopting wide-scale use of radios, films, and film-strips for the quick dissemination of information among the illiterate. In India radio receivers set up in 111 villages of Delhi Province are regularly serviced by technical inspectors. The Government broadcasts special programs for this audience. In Africa's Gold Coast there are 178 community receiving sets, part of a radio redistribution system serving 8,000 loudspeakers in schools and marketplaces. Northern Rhodesia has imported several thousand durable and cheap sets called "Saucepan Specials." The administration hopes that by selling the "Saucepan Specials" to groups of natives they may, in the not too distant future, change from the present situation where hardly any non-Europeans in Africa own radios.

Short-Cuts to Goal

These are, of course, short-cuts born of the urgency of the need of poverty-stricken communities for "fundamental education" and information. The goal is the establishment of regular schooling.

The present goal of every country is to raise living standards. That begins, of course, with food supplies and on that front there has been no appreciable gain in those very areas of the world where need is greatest. There is not enough food. This was true even before the war, but partly as a result of the dislocations caused by the war itself, the situation has further deteriorated.

Since the war's end, the gap between

LINCOLN MEMORIAL—GENDREAU PHOTOGRAPH

the best-fed and the worst-fed populations has widened. Ten per cent less food is available for consumption over most of the Far East while, in the United States and Canada, there is a steady improvement in food supplies.

Where quantity is small, the nutritional quality of that inadequate bowl is also deficient. In the hungry lands, diets are largely of a single food. Lacking the protective factors, this poor diet is itself the cause of diseases such as pellagra and rickets.

One-Course Meal

In Latin America, the highland Indian depends on maize or potatoes. The peasant of the Brazilian interior is similarly dependent on manioc (also known as cassava or yuca). The Caribbean plantation worker lives mainly on rice, beans, and dried codfish. The Middle Easterner lives mainly on cereals, dates, and milk and its products. The Asian lives mainly on rice. In none of these areas is meat a significant part of the diet. In none are the "protective" foods important.

Right now the problem is not so much to improve diets, important as that is, but to increase food production so that it will keep pace with population increases. If present standards of living are to be maintained, food production must expand as rapidly as population growth; and if a better life is to be achieved for the many millions who do not have adequate food to-day, it must expand faster than population increases.

This it shows little sign of doing. Over the last fifteen years, with World War II intervening, food production has increased less than population in most parts of the world; particularly in those areas where population growth

"I realize it's your last day with the company, but do something!"

is fastest. No one knows, of course, whether this imbalance will continue, since so much depends upon ingenuity and human effort to meet the problem.

One thing is certain. To increase food production is a far more complicated process than is involved in wiping out disease. To control a mass-disease may require only the consent of a population. To increase food production demands active and instructed co-operation. In many cases it requires changes in deep-rooted customs and practises, as well as resettlement, land reform, large-scale irrigation and conservation projects, and other far-reaching actions.

A Basic Change

Some of those far-reaching actions include changing from single crops to diversified agriculture. In Latin America most countries now concentrate on a single crop such as sugar, coffee, or cocoa. These are largely "dessert" foods, grown for export. The peasants do not get to eat them and they are not the staff of life anyway.

In Puerto Rico, expansion of sugar cultivation has cut into beef and cereal production. In several countries the introduction of chemical herbicides has

DAILY CALORIES PER CAPITA

Country	*Recent level*	*Estimated requirements*	*Percentage Difference*
FAR EAST			
Ceylon	1,970	2,270	—13.2
India	1,700	2,250	—24.4
Japan	2,100	2,330	— 9.9
Philippines	1,960	2,230	—12.1
MIDDLE EAST			
Cyprus	2,470	2,510	— 1.6
Egypt	2,290	2,390	— 4.2
Turkey	2,480	2,440	+ 1.6
AFRICA			
French North Africa	1,920	2,430	—20.9
Mauritius	2,230	2,410	— 7.5
Union of South Africa	2,520	2,400	+ 5.0
LATIN AMERICA			
Argentina	3,190	2,600	+22.7
Brazil	2,340	2,450	— 4.5
Chile	2,360	2,640	—10.6
Mexico	2,050	2,490	—17.6
Uruguay	2,580	2,570	+ 0.4
EUROPE			
Denmark	3,160	2,750	+14.9
France	2,770	2,550	+ 8.6
Greece	2,510	2,390	+ 5.0
Italy	2,340	2,440	— 4.1
Norway	3,140	2,850	+10.2
United Kingdom	3,100	2,650	+16.9
NORTH AMERICA AND OCEANIA			
Australia	3,160	2,620	+20.6
United States of America	3,130	2,640	+18.5

SOURCE: UNITED NATIONS.

killed off grasses or poisoned them so that peasants could no longer graze their few domestic fowls or animals. In none of those under-developed countries, which grow so much food for export, has diversified food production on a systematic basis as yet become a fact.

Economic Problem

Another far-reaching action involves a better economic use of land capable of producing food. In Brazil where about one-half of the acreage available for agriculture is in large farms, only 2.8 per cent of these big holdings is cultivated. Something like this pattern is repeated in Chile where 64 per cent of the privately owned land is in estates of over 12,000 acres and these holdings belong to 750 owners.

It can also be seen in Uruguay, Costa Rica, in the Argentine, and in other Latin American countries. This process has forced the rapidly growing populations to seek food on tiny tracts high up the rocky slopes of mountains.

In Asia, most densely populated of all areas, the need for economic use of land speaks for itself. Ceylon, India, Indo-China and Indonesia have less than one acre of arable land per person and, as population grows, the relationship grows worse.

The number of mouths at the world's table is increasing rapidly. It is possible that average death rates in the less-developed areas may soon approach the present levels in highly industrialized societies, while birth rates continue at the traditional level. That combination would make for a "demographic explosion" if the areas remain in a one crop economy or under-developed. The solution lies in diversified and mechanized food production, continuing economic development, urbanization, education, and associated changes.

Given this modern pattern, birth rates may in time fall from their present high levels to a point commensurate with the reduced death rates. This is what did occur in the highly industrialized countries such as ours. History should repeat itself in the less-developed countries, though to be sure all policy—national and international—should take this fact of life, a rapidly increasing population, into account in formulating social policy on many fronts.

END OF PART ONE

HERE *and* THERE

Seamless capsules will not make it easier to take what the doctor says you need, but you will get the treatment quicker.

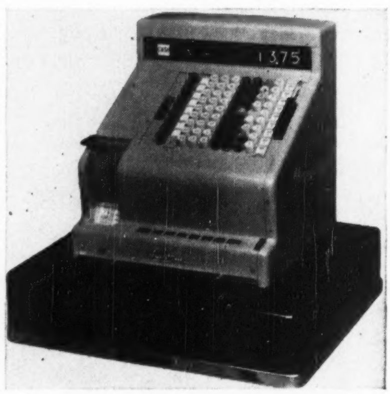
A new, one-piece capsule has been developed by Gunnell Capsulations, Inc., of Fraser, Mich. It has less shell material, giving it greater solubility. This is said to be of importance in the use of capsules containing peppermint, lemon, and other oil flavors used in the preparation of foods, as well as vitamin and other medicinal preparations.

A "small business" cash register with accounting machine features was recently announced by the National Cash Register Company, Dayton, Ohio. The register, which provides an itemized printed receipt for the customer, was developed to meet the requirements of stores with no more than one salesperson in addition to the proprietor.

There are three-models—one for general use, one for cafeterias, and a third for the small self-service checkout store.

By moving the control lock the merchant can convert this new register to adding-machine operation without interfering with the locked-in cash register total and audit strip.

The manufacturer explains that the

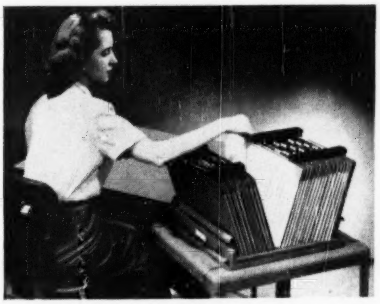


This new cash register can also be used for fast, accurate addition, as required in checking invoices and bank statements, and figuring tax returns.

new model enables the merchant not only to keep a record of the number of items sold in his several departments, but also to keep a record of special sales, miscellaneous transactions, money paid out, money received on account, and other essential information to guide him in his day-to-day business activity.

A new material control system has been developed for the Firestone Tire and Rubber Co., Akron, Ohio, working with Diebold, Inc., Canton, Ohio.

Firestone had investigated existing equipment without finding a system



This material control system was developed to meet special requirements of a large manufacturer.

which fitted exactly their requirements for record-keeping. By combining features of two pieces of equipment, Diebold methods men developed a new product, called V-Dex, which proved satisfactory.

V-Dex combines Diebold V-Line posting trays and the Diebold Tra-Dex vertical-visible system.

In a folder released by Diebold it is stated that Firestone now maintains control over all goods, supplies, and raw materials, and keeps them flowing to production lines without interruption and with a minimum investment in inventory.

The "Snow Detector" has been announced with seasonal timeliness.

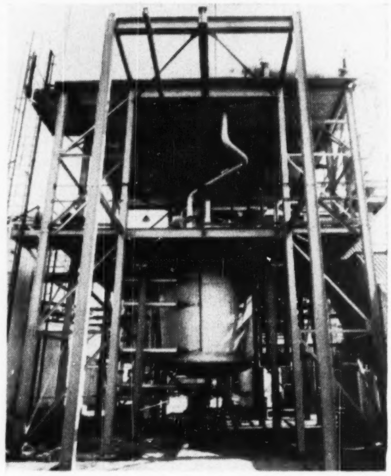
It is a new weather sensing unit designed primarily for the de-icing of microwave antennas, but it has many other uses. Wherever severe icing conditions and snow impair operation of moving parts, an electronically controlled heater will solve the problem. This unit can be used for the automatic operation of sidewalk snow removal systems, and a recent application is by

railroads who use the weather sensing device to control heaters for automatic rail switches.

It is a recent development of the Communications and Electronics Division of Motorola, Chicago, Ill.

An outdoor kettle for cooking synthetic resins was recently completed by Reichhold Chemicals, Inc., at its plant in Elizabeth, N. J.

Officials of the company believe that the installation will be closely watched



This outdoor kettle can cook a single charge of 50,000 pounds of synthetic resins at temperatures running as high as 600 degrees Fahrenheit.

for the next several months by northern industrialists. Heretofore, year-round operation out-of-doors has been restricted to some industries in the South and Southwest. It was stated that if the Elizabeth experiment proves successful, it may pave the way for widespread adoption of outdoor plants in the North.

Believed to be the first outdoor kettle operation developed, the 7,800 gallon kettle is protected against Winter cold by special insulation precautions.

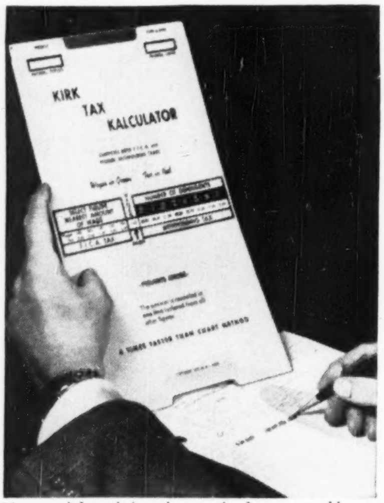
Lavender without old lace comes to this department of DUN'S REVIEW in the form of a press release making mighty much of a British-made polish for furniture and leathers.

It was originated for a London antique store, which needed a polish to preserve antique woods, according to Michael P. W. Stone, President of Saint's Satin Wax Limited, Arlington

Heights, Ill., exclusive distributor in the United States.

The release includes these phrases about the wax polish: "helps preserve fine woods and leathers, including leather-topped furniture and handbags . . . scented with lavender, it lends a faint fragrance to waxed articles . . . although deep purple in color it forms a transparent protective coating when applied to leather or furniture."

A new slide chart has been designed to speed up calculations of payroll deductions of withholding taxes and old age benefits. This computor consists of two parts, an outer plastic cover with



No special training is required to use this tax computor, which is said to give results four times faster than the chart method of determining payroll deductions.

slots and printed instructions, and a sliding table which slips inside.

Twelve inches long and eight inches wide, the tax computor has a one-line reading window which shows the correct deductions for various wages. Tables are available for weekly, biweekly, and semi-monthly pay periods.

The device is called the Kirk Payroll Tax Kalculator, and is manufactured by Kirk Plastic Company, Los Angeles 11.

Muss and fuss in bathroom, kitchen, commercial, and industrial remodeling work is cut down by the use of adhesives in installing clay floor and wall tile, according to a specification recently issued by the Tile Council of America.

The United States Department of Commerce issued a commercial stan-

dard for water-resistant organic adhesives used in such work in July 1952.

Claims are that clay tile can be installed with adhesives in both new construction and remodeling work, reducing installation time and cost.

The Tile Council points out that adhesives have been used extensively in the installation of other floor and wall materials, and by clay tile contractors in some sections of the country, but that the adhesive method is designed to supplement and not replace the conventional method of installing clay tile in a cement bed.

A new combination hand truck-trailer, with a capacity of 4,000 pounds, is being produced by the Mercury Manufacturing Company, Chicago, Ill.

It is an all-steel, caster-steer trailer which is equipped with a brake mechanism designed to permit easy manual control of the hand truck and load when operating on grades.

The standard model of this new hand truck-trailer is 36 inches wide by 62 inches long, and its flush deck is 13 inches from the floor.

Flush deck construction of the unit makes it suitable for hauling pallet loads of materials.

Off-the-job safety is now recognized as being even more significant than safety in the shop or office.

In a booklet entitled, "The Story of Safety," E. I. du Pont de Nemours and Company, of Wilmington, Del., states that its employees are about four times safer at work than they are at home or any place else. That applies even to workers whose jobs call for handling high explosives or volatile chemicals.

Du Pont's injury frequency rate has been cut by more than 93 per cent—from 10.3 injuries per million man-hours worked in 1926 to 0.67 injuries

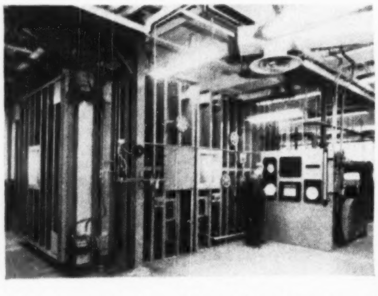
per million man-hours worked in 1951. Had this improvement not taken place, at least 31,000 injuries that never happened could have occurred over the 25-year period.

Now available to business and industry is a so-called "packaged off-the-job safety program," prepared by the American Mutual Liability Insurance Company of Boston. This program, prepared by the company's Institute for Safer Living, is based on a study of lost-time, accident, and health problems of the personnel of more than 300 companies. It embraces educational media such as safety posters, folders, company periodicals, letters, and meetings.

The insurance company states that far more accidents occur to employees away from work than while they are on the job. In some instances the accident ratio is as high as ten to one.

An environmental chamber to test finished products, sub-assemblies, components, and materials was recently installed by Goodyear Aircraft Corporation, Akron, Ohio.

The chamber will be used for conducting tests under weather conditions more severe than those found in the arctic and the tropics, and equalling those found at altitudes up to 75,000 feet.



This test chamber was designed to "pull down" room temperature to 100 degrees below zero in a period of approximately 90 minutes.

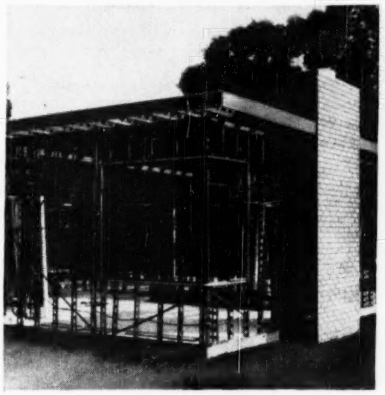
Designed and manufactured by Tenney Engineering, Inc., Newark, N. J., the chamber produces temperatures ranging from minus 100 deg. F. to plus 200 deg. F., humidity from 20 per cent to 95 per cent, and vacuum pressures from sea level to 75,000 feet.

The chamber is operated from an automatic control panel which regulates low heat, high heat, ambient cooling, sub-zero cooling, water or steam

for humidity, refrigeration for de-humidification, vacuum pump, and fans.

The new chamber is expected to provide valuable design and test data which will speed development of equipment for stratosphere use. Another claim is that it will cut experimental costs by making it possible to conduct on location tests which otherwise would have to be made in the field.

Steel frame work for the light building industry is now available. Steel structural sections for single and multiple dwellings, schools, industrial and



The steel frame of this "ranch type" house was closed in by wire-tying metal rib lath to the studs and troweling on stucco finish.

commercial buildings are now being produced under the trade name "Light-steel."

The sections include a range of studs, joists, and accessories for building frameworks. They are fabricated from strip steel by cold rolling. The sections have a double-trussed open web design, said to give the advantage of light-weight without sacrificing strength.

The manufacturer, Penn Metal Company, Inc., New York, N. Y., states the new structural sections are intended for custom design and construction, and avoid "restrictions imposed by prefabrication."

Business and industry are co-operating with the University of Rhode Island in a vocational program planned jointly by the faculty and students.

Seniors at the university have a free period each Tuesday morning when they can voluntarily attend "career hour" lectures. This is supplemented with all-day orientation visits as guests

of businesses and industries in the area.

Raymond Stockard, director of the university placement office, states that the plan is proving effective because it gives the seniors an opportunity to relate the vocational guidance to their personal study program.

A committee made up of a faculty representative from each college of the university, the heads of student government, and the editor of the student paper plan the "career hour" program.

Mr. Stockard says that the business men who take part in the program are enthusiastic, and that no company has refused a request for a speaker, and that all companies are receptive to the "at-the-company" orientation meetings.

No strike and steel scalp are words used to describe a new positive action lock for steel desks now being manufactured by The Yale and Towne Manufacturing Company, Stamford, Conn.

A major claim of the manufacturer is that this slide bolt desk lock provides easier and faster assembly to desk manufacturers, installation time amounting to a matter of seconds.

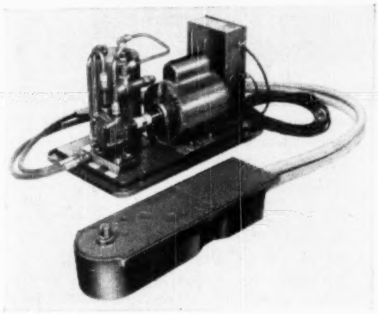
Silhouette view of the new lock especially designed for steel desk security.

The slide bolt is built around a steel insert, which togther with a five disc-tumbler locking mechanism gives strength and security.

Needing no "strike" the new lock fits any standard desk. The exterior scalp is of stainless steel, and the lock's plug is removable for re-keying or for master-keying.

A "counting door" is now available. This is an electrically operated hydraulic door control, produced by the Dor-O-Matic Division of Republic Industries, Inc., Chicago, Ill.

The counting device, which is optional equipment, keeps a tabulation,



The one-half horsepower motor unit of the new automatic door-opener can be hidden from view at any distance from the door which it operates.

not of the number of times the door is opened, but of the number of individuals who enter.

The device will open any type of door—glass, wood, or metal—when a person steps on a carpet leading through the doorway.

As a safety feature the manufacturer states that the door is set to open away from the person entering, and that if someone is standing on the opposite side of the doorway, the automatic control will not operate until pressure on that section of the carpet has been relieved.

Four finger-spaced lugs, all continuations of the spoke structure projecting from the stem hub through an

New handwheel, developed after five years of research, replaces malleable iron wheels on manufacturer's complete line of valves.

octagonal frame are offered as features of a new "non-slip" handwheel developed by The Lukenheimer Company, Cincinnati, Ohio.

Designed to turn easily and safely, the new handwheel is described as being a departure from the conventional type of valve wheel. The shape enables the operator to get a firm, comfortable grip on the handwheel and apply high pressure, even if his hand is wet or greasy.

During five years of research Lukenheimer engineers built a special testing device to measure the amount of hand pressure needed to turn handwheels.

Rate of weight loss of a piece of steel corroding normally in soil can be measured electrically without actually weighing the metal, according to the results of a recent laboratory study made by the National Bureau of Standards, Washington, D. C.

Conducted by W. J. Schwerdtfeger and O. N. McDorman of the NBS corrosion laboratory, the research gives further evidence that the electrochemical theory of corrosion applies generally to soils.

Although the NBS measurements were restricted to the laboratory, the success of the work suggests the possibility of valuable practical applications, such as determination of the corrosion rate of a tank or other underground structure without the need for visual inspection.

Alma Mater by mail is now available on a selective basis. The International Correspondence Schools, Scranton, Pa., has announced that a custom-made course of home-study courses can be made up to fit the employee training requirements of an individual company.

Under what ICS labels the "selective plan," a company pays a flat registration fee and is permitted to draw, with the aid and counsel of ICS advisors, on the entire ICS storehouse of lessons to make up a program to fit the special and specific requirements of a particular company.

The employer maintains complete control over every phase of this educational program.

The arrangement is flexible so that new requirements or learning defi-

ciences may be met as they arise by adding or rearranging lesson units.

Under this plan the individual students do not register with International Correspondence Schools. They turn their completed lessons over to the company's personnel or educational director who sends them to ICS for correction at a flat rate per lesson.

Employee training programs will be extended and intensified during 1953, according to the results of a survey which ICS recently made among executives of several thousand companies. About 55 per cent of the companies reported that they were not satisfied with their training programs and expected to do something about it.

ICS also announced that some time between April and August of 1953 it expected to enroll its six millionth student.

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